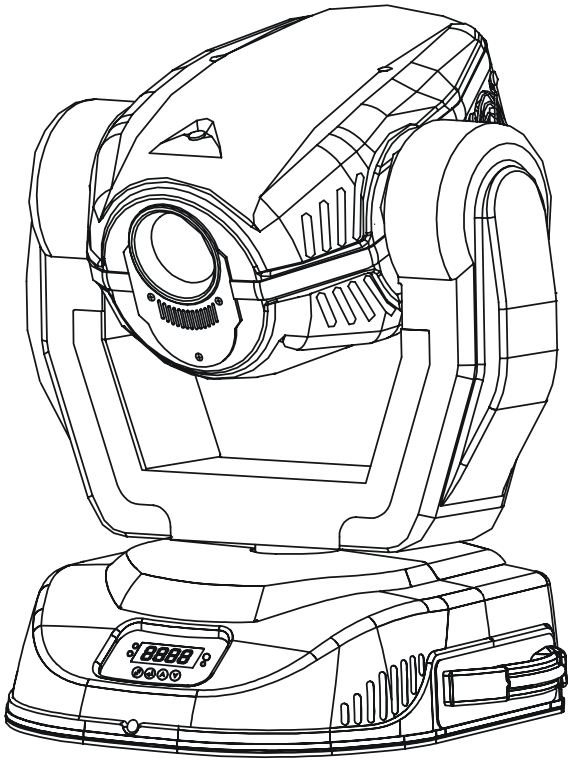
ROBE

Image Spot 250 AT



aT series

USER MANUAL

ROBE® Lighting s.r.o. • Czech republic • www.robe.cz

IMAGE SPOT 250 AT

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CAUTION!
Keep this device away from rain and moisture!
Unplug mains lead before opening the housing!

FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY BEFORE YOU INITIAL START - UP!

1. Introduction

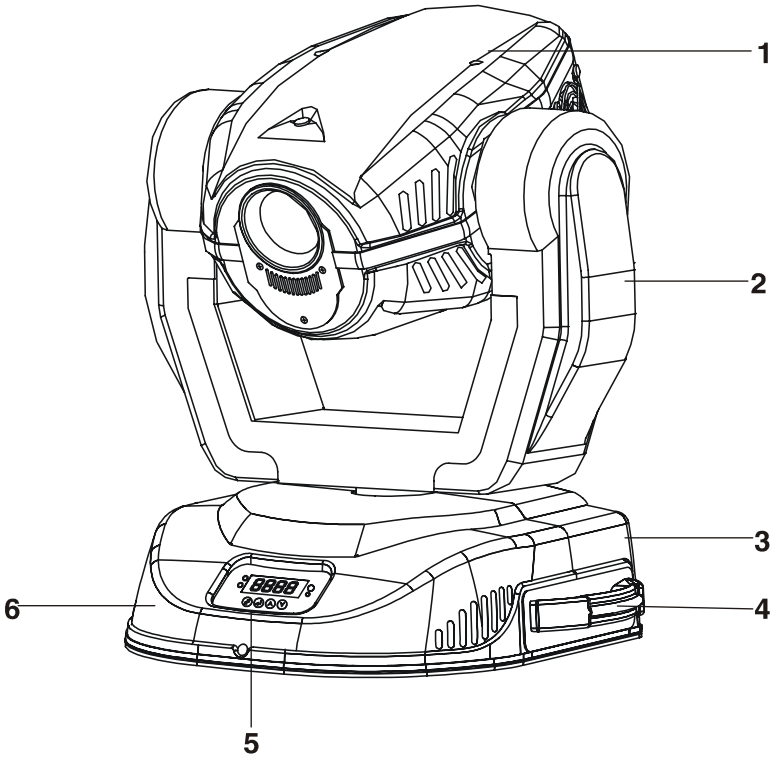
Thank you for having chosen a IMAGE SPOT 250 AT. You acquired a versatile, powerful and intelligent lighting-effect.

Unpack your IMAGE SPOT 250 AT and make sure that there are no damages caused by transportation. Should there be any, please consult your local dealer and do not take the device into operation.

Features

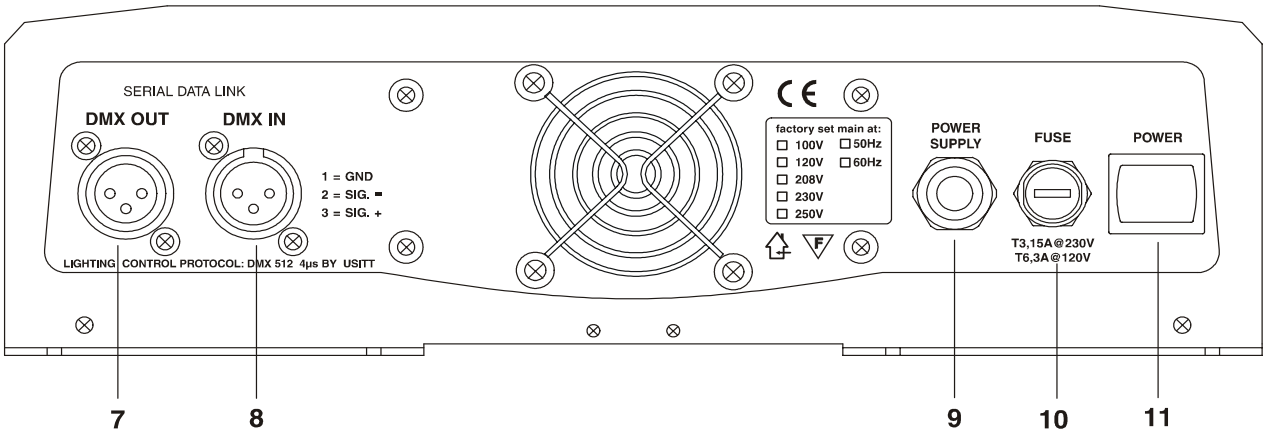
• Master/slave operation •Build-in test program • Built-in light sensor and built-in clock for stand-alone operation • Remote control • 3 freely-programmable programs, each up to 99 steps • Rotating gobo-wheel with 5 gobo positions and open • The rotating gobos are indexable • The rotating gobos can be interchanged • Remotely controllable motorized focus • Combined shutter/dimmer unit allowing very smooth dimming and strobo effect max. flash per sec. • Modular construction of fixture • Addressing, special functions setting, effects calibration via control panel • Readout fixture/lamp usage and lamp strike • Receiving DMX values, temperature, etc • Built-in analyzer for easy fault finding, error messages • Remotely switching of the lamp • Black-out while Head moving or gobo changing • Remotely controllable speed of Pan/Tilt movement for easy programming • Remote reset function • Intelligent control panel with 4-digit LED display • Silent fans cooling; • 10 DMX-channels - 16 bit Pan/Tilt movement resolution • 8 DMX-channels - 8 bit Pan/Tilt movement resolution • Pan-movement range 530° • Tilt-movement range 280° •Automatic Pan/Tilt position correction • High luminous-efficiency parabolic mirror and double condenser system •15° objective • Motorized focus controllable via DMX • All lenses are anti-reflection coated • 5 high-quality stepper-motors for smooth movements • Self-resetable thermo-fuse • For MSD 250/2 GY-9,5 lamp • DMX-control via every standard DMX-controller •

1.1.Description of the device



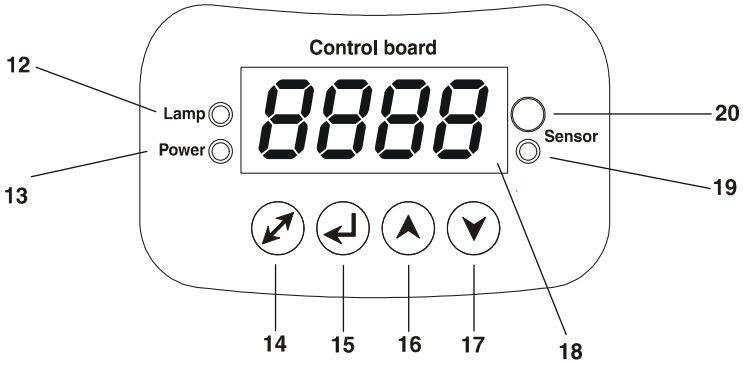
1 - Projector head
2 - Yoke
3 - Rear panel
4 - Transport handle
5 - Control panel
6 - Base

Rear panel of the base

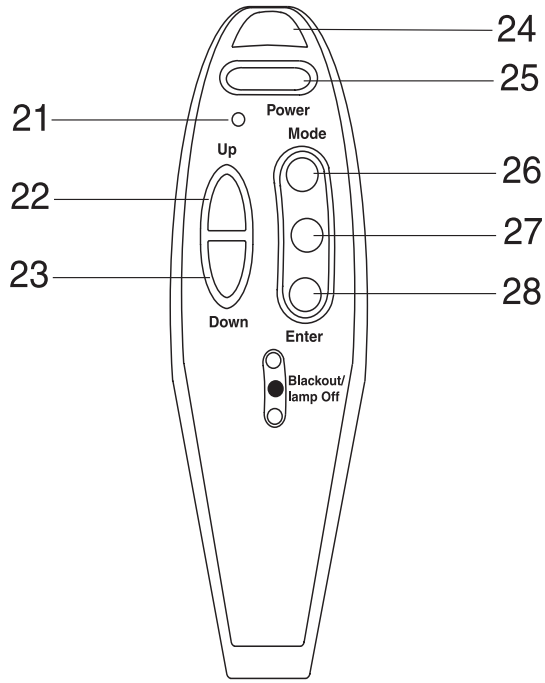


7 - DMX output
8 - DMX input
9 - Power cord
10 - Fuse holder
11 - Power switch

Control panel



12 - Red LED
13 - Green LED
14 - Mode-button
15 - Enter-button
16 - Up-button
17 - Down-button
18 - Display
19 - Infra-red transceiver
20 - Light sensor



Infra-red remote control

21 - Red LED
22 - Up-button
23 - Down-button
24 - Infra-red transmitter
25 - Lamp on-button
26 - Mode-button
27 - Blackout/lamp off-button
28 - Enter-button

2.Safety

2.1.Safety instructions

Caution !
Be careful with your operations.With a dangerous voltage you can suffer a dangerous electric shock when touching the wires

This device has left our premises in absolutely perfect condition. In order to maintain this condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this manual.

Important:

Damages caused by the disregard of this user manual are not subject to warranty. The dealer will not accept liability for any resulting defects or problems.

If the device has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your device. Leave the device switched off until it has reached room temperature.

This device falls under protection-class I. The power plug must only be plugged into a protection class I outlet. Never let the power-cord come into contact with other cables! Handle the power-cord and all connections with the mains with particular caution!

Make sure that the available voltage is not higher than stated on the rear panel.

Make sure that the power-cord is never crimped or damaged by sharp edges. Check the device and the power-cord from time to time.

Always disconnect from the mains, when the device is not in use or before cleaning it. Only handle the power-cord by the plug. Never pull out the plug by tugging the power-cord.

During the initial start-up some smoke or smell may arise. This is a normal process and does not necessarily mean that the device is defective.

Caution: During the operation, the housing becomes very hot.

Do not switch the device on and off in short intervals as this would reduce the lamp's life.

HEALTH HAZARD!
Never look directly into the light source,as sensitive persons may suffer an epileptic shock
(especially meant for epileptics) !

Please consider that damages caused by manual modifications to the device are not subject to warranty.

Keep away children and amateurs !

2.2.Operating determinations

This device is a moving-head spot for creating decorative effects and was designed for indoor use only.

This device is designed for professional use, e.g. on stages, in discotheques, theatres etc.

Lighting effects are not designed for permanent operation. Consistent operation breaks will ensure that the device will serve you for a long time without defects.

Never run the device without lamp!

Do not shake the device. Avoid brute force when installing or operating the device.
Never lift the fixture by holding it at the projector-head, as the mechanics may be damaged. Always hold the

fixture at the transport handles.

When choosing the installation-spot, please make sure that the device is not exposed to extreme heat, moisture or dust. There should not be any cables lying around. You endanger your own and the safety of others!

The minimum distance between light-output and the illuminated surface must be more than 1,3 meter.

Make sure that the area below the installation place is blocked when rigging, derigging or servicing the fixture.

Always fix the fixture with an appropriate safety-rope. Fix the safety-rope at the correct holes only.

Only operate the fixture after having checked that the housing is firmly closed and all screws are tightly fastened.

The lamp must never be ignited if the objective-lens or any housing-cover is open, as discharge lamps may explose and emit a high ultraviolet radiation, which may cause burns.

The maximum ambient temperature must never be exceeded.

CAUTION!
The lens has to be replaced when it is obviously damaged, so that its function is impaired, e. g. due to cracks or deep scratches!

Operate the device only after having familiarized with its functions. Do not permit operation by persons not qualified for operating the device. Most damages are the result of unprofessional operation!

CAUTION!
The lamp has to be replaced when it is damaged or deformed due to the heat!

Please use the original packaging if the device is to be transported.

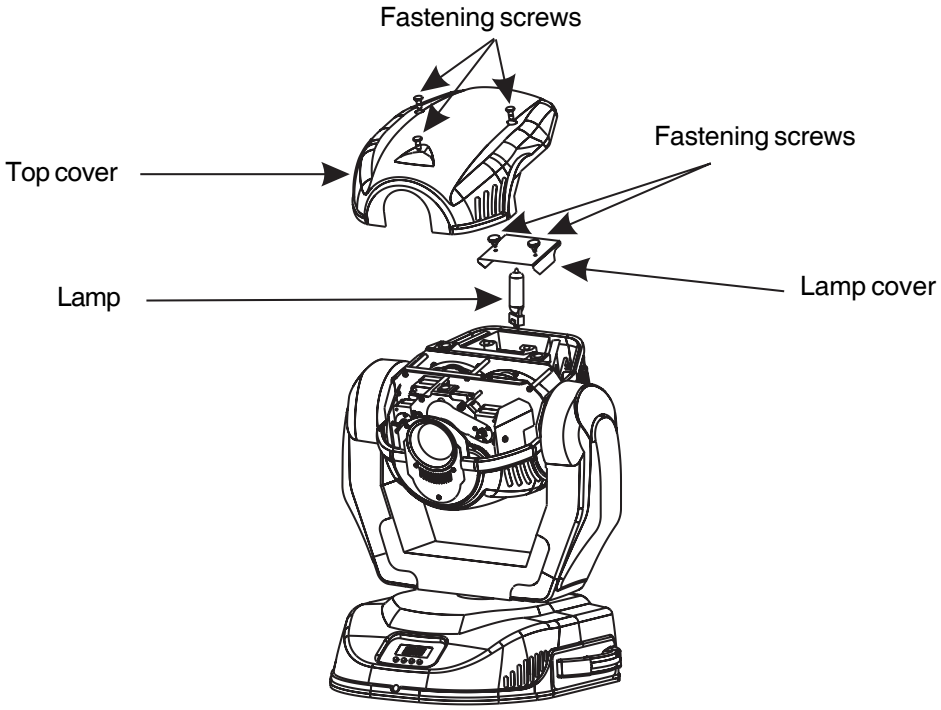
Please consider that unauthorized modifications on the device are forbidden due to safety reasons!

If this device will be operated in any way different to the one described in this manual, the product may suffer damages and the guarantee becomes void. Furthermore, any other operation may lead to dangers like short-circuit, burns, electric shock, lamp explosion, crash etc.

3.Installation

3.1.Fitting/Exchanging the lamp

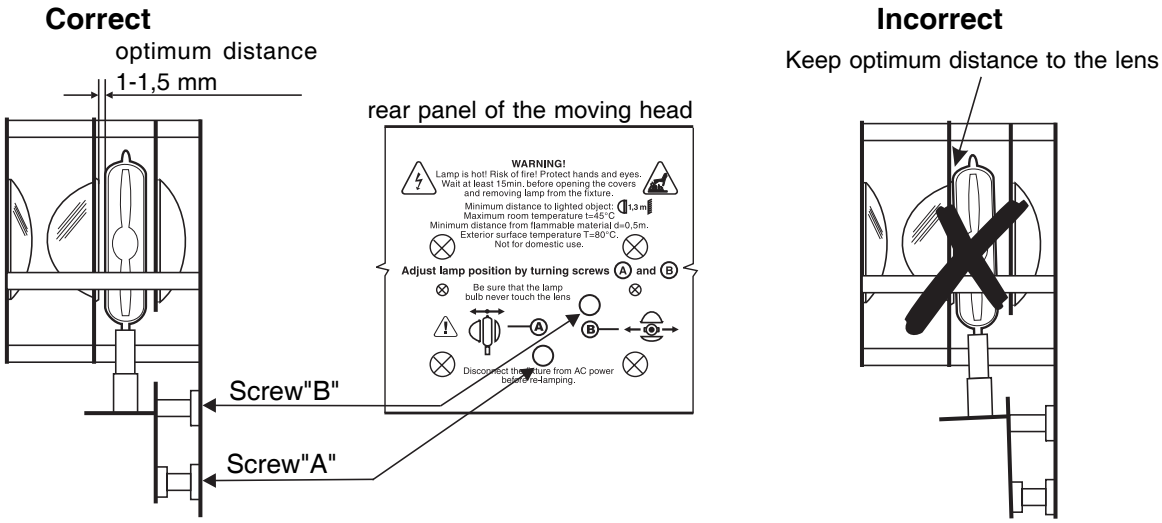
DANGER !
Install the lamp with the device switched off only.
Unplug from mains before !



To insert the lamp MSD 250W/2 open the top cover of the projector-head (see the drawing to identify which cover is top) by loosening the 3 screws on the cover.
Then open the small lamp cover by loosening 2 fastening screws (see the drawing).
If changing the lamp, remove the old lamp from the socket.
Insert the lamp to the socket.
Do not install a lamp with a higher wattage! A lamp like this generates temperatures the device is not designed for.
Damages caused by non-observance are not subject to warranty. Please follow the lamp manufacturer‘s notes!
Do not touch the glass bulb with bare hands during the installation! Make sure that the lamp is installed tightly into the lampholder system.
Adjust the optimal distance 1-1.5 mm from the lens by turning the screw "A" (see the drawings "Lamp adjustment" below) on the rear panel of the head.
Then close the small lamp cover by tighten 2 fastening screws again.
Reclose the top cover of the head and tighten the 3 screws.
Before striking the lamp, reset the **"LAti/rSEt"** and **"LASt/rSEt"**counters in the "**InFO**" menu by pressing the "Up" and "Down" buttons in one time and then confirming with the **"Enter"**-button.

Do not operate this fixture with opened housing-cover!

Lamp adjustment


Correct
optimum distance
1-1,5 mm
rear panel of the moving head
WARNING!
Lamp is hot! Risk of fire! Protect hands and eyes.
Wait at least 15min. before opening the covers
and removing lamp from the fixture.
Minimum distance to lighted object: 1,3 m
Maximum room temperature t=45°C.
Minimum distance from flammable material d=0,5m.
Exterior surface temperature T=80°C.
Not for domestic use.
Adjust lamp position by turning screws A and B
Be sure that the lamp
bulb never touch the lens
Disconnect the fixture from AC power
before re-lamping.
Screw"B"
Screw"A"
Incorrect
Keep optimum distance to the lens

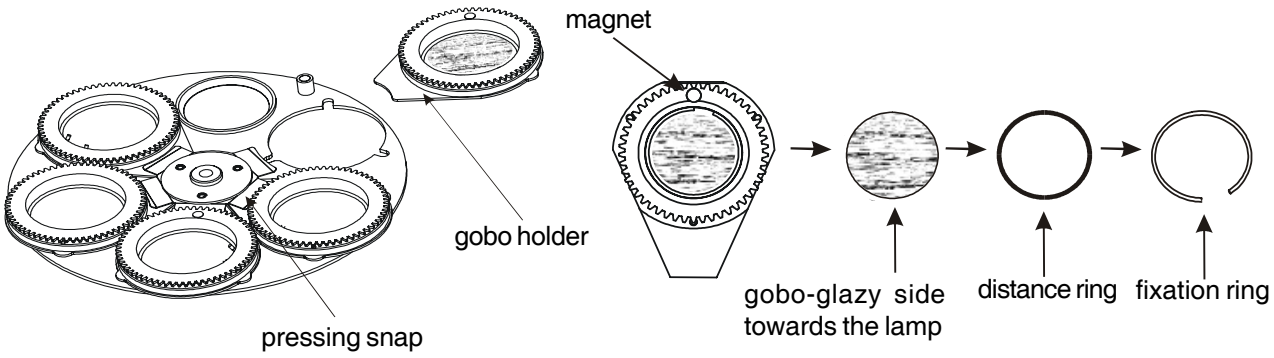
The lampholder is aligned at the factory. Due to differences between lamps, fine adjustment may improve light performance.
Strike the lamp, cancel all effects, open the shutter and dimmer , focus the light on a flat surface (wall) or use function "**LAAd**" in the Special functions . As the optimum distance of the lamp from lens was adjusted during the installing or changing the lamp (by turning the screw "A"), it is necessary to adjust only the second position by turning the screw "B", in order to center the hot-spot (the brightest part of the beam).
If the hot spot seems to be too bright, you can lower its intensity by moving the lamp closer to the reflector. Do so by turning the srew "A" until the light is evenly distributed.
If the light on the edge seems to be brighter as in the center, the lamp is too close at the reflector. In this case, you need to move the lamp away from the reflector until the light is evenly distributed and the beam appears bright enough.

3.2.Inserting/Exchanging rot. gobos

DANGER!
Install the rotating gobos with the device switched off only.
Unplug from mains before!

Turn off the lamp and allow it to cool for at least 5 minutes.Disconnect the fixture from power.
Open the bottom cover of the moving head by loosening the 3 quarter-turn fasteners on the top cover and follow the instructions below:
1.Gently bend out the gobo holder to release it from the fixative holes and eject it from the pressing snap.
2.Press the ends of the fixation ring together with an appropriate tool and remove it.
Do not touch the surface of the pattern of the glass gobos as the oils from your hands can damage the pattern.Always load coating away from the light source.
3.Remove the distance ring and gobo and insert the new gobo with distance ring. Press the ends of the fixation ring together and insert it in the front of the gobo.
4.Put the gobo holder back under the pressing snap and push it to the 3 fixative notches.

CAUTION!
The gobo holder with the magnet must be placed in the same gobo position as it was placed before gobo replacement!



CAUTION!
Never unscrew the screws of the rotating gobo as the ball bearing will otherwise be opened!

3.3.Rigging

DANGER TO LIFE!
Please consider the respective national norms during the installation! The installation must only be carried out by an authorized dealer!

The installation of the projector has to be built and constructed in a way that it can hold 10 times the weight for 1 hour without any harming deformation.

The installation must always be secured with a secondary safety attachment, e.g. an appropriate catch net. This secondary safety attachment must be constructed in a way that no part of the installation can fall down if the main attachment fails.

When rigging, derigging or servicing the fixture staying in the area below the installation place, on bridges, under high working places and other endangered areas is forbidden.

The operator has to make sure that safety-relating and machine-technical installations are approved by an expert before taking into operation for the first time and after changes before taking into operation another time.

The operator has to make sure that safety-relating and machine-technical installations are approved by an expert after every four year in the course of an acceptance test.

The operator has to make sure that safety-relating and machine-technical installations are approved by a skilled person once a year.

Procedure:
The projector should be installed outside areas where persons may walk by or be seated.

IMPORTANT! OVERHEAD RIGGING REQUIRES EXTENSIVE EXPERIENCE, including (but not limited to) calculating working load limits, installation material being used, and periodic safety inspection of all installation material and the projector. If you lack these qualifications, do not attempt the installation yourself, but instead use a professional structural rigger. Improper installation can result in bodily injury and.or damage to property.

The projector has to be installed out of the reach of people.

If the projector shall be lowered from the ceiling or high joists, professional trussing systems have to be used. The projector must never be fixed swinging freely in the room.

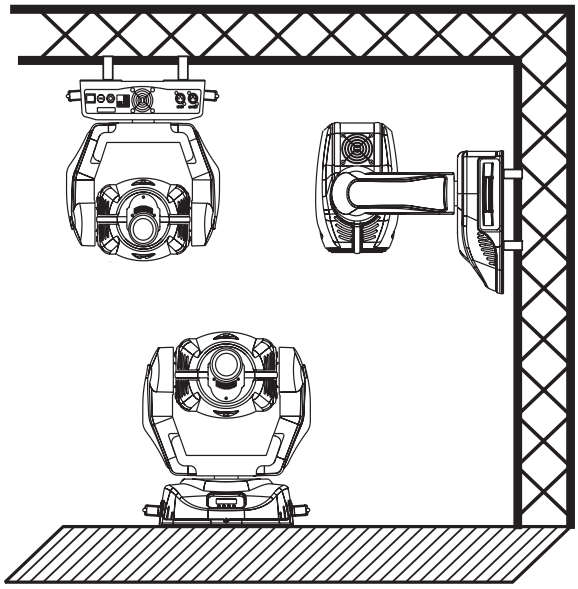
Caution: Projectors may cause severe injuries when crashing down! If you have doubts concerning the safety of a possible installation, do not install the projector!

Before rigging make sure that the installation area can hold a minimum point load of 10 times the projector's weight.

Danger of fire !
When installing the device, make sure there is no highly inflammable material (decoration articles, etc.) in between a distance of min. 0,5 m.

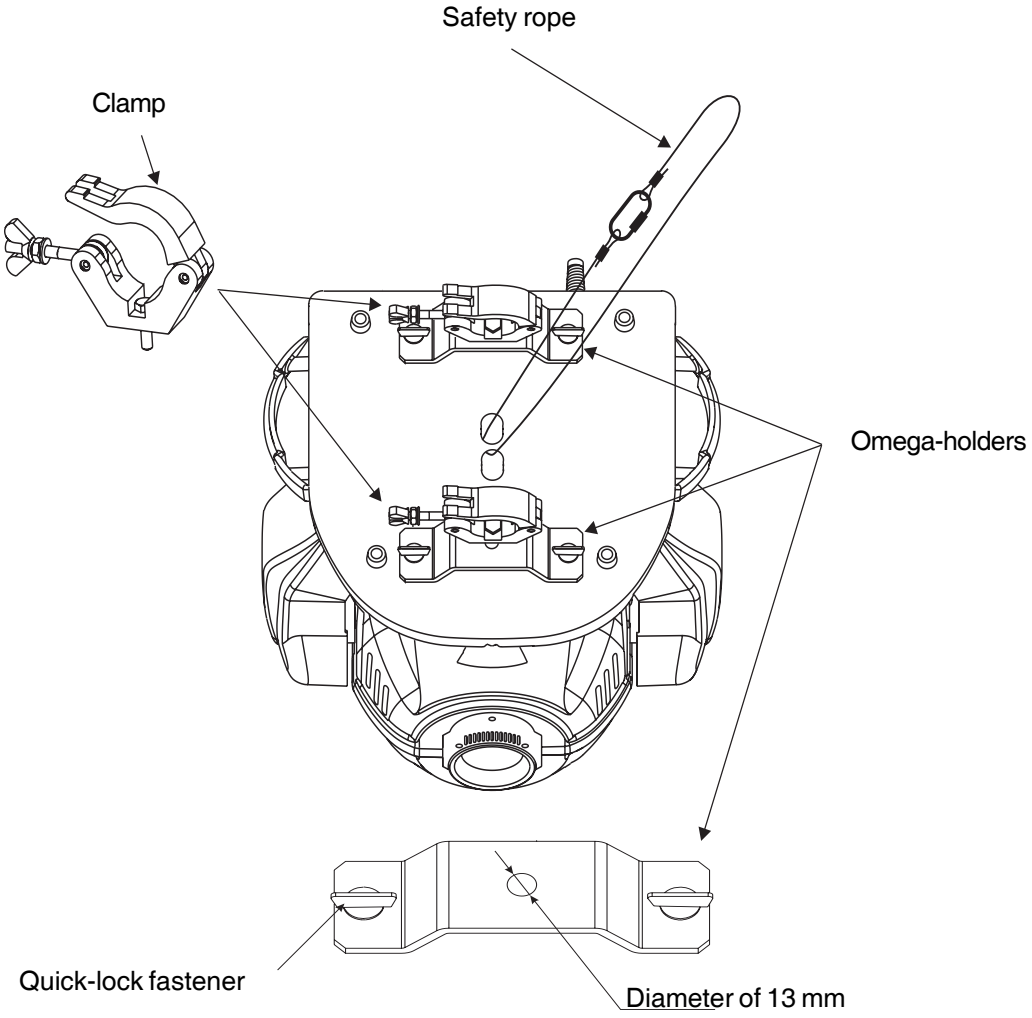
CAUTION!
Use 2 appropriate clamps to rig the fixture on the truss.
Follow the instructions mentioned at the bottom of the base.
Make sure that the device is fixed properly! Ensure that the structure (truss) to which you are attaching the fixtures is secure.

The fixture can be placed directly on the stage floor or rigged in any orientation on a truss without altering its operation characteristics (see the drawing).
There are two possibility how to fix the IMAGE SPOT 250 AT on a truss: with the clamp brackets or mounting plate (see the drawings below).Use the rigging clamps with screws M12.
For overhead use, always install a safety-rope that can hold at least 10 times the weight of the fixture. You must only use safety-ropes with screw-on carabines. Pull the safety-rope through the two apertures on the bottom of the base and over the trussing system etc. Insert the end in the carabine and tighten the fixation screw.



DANGER TO LIFE!
Before taking into operation for the first time,the installation has to be approved by an expert!

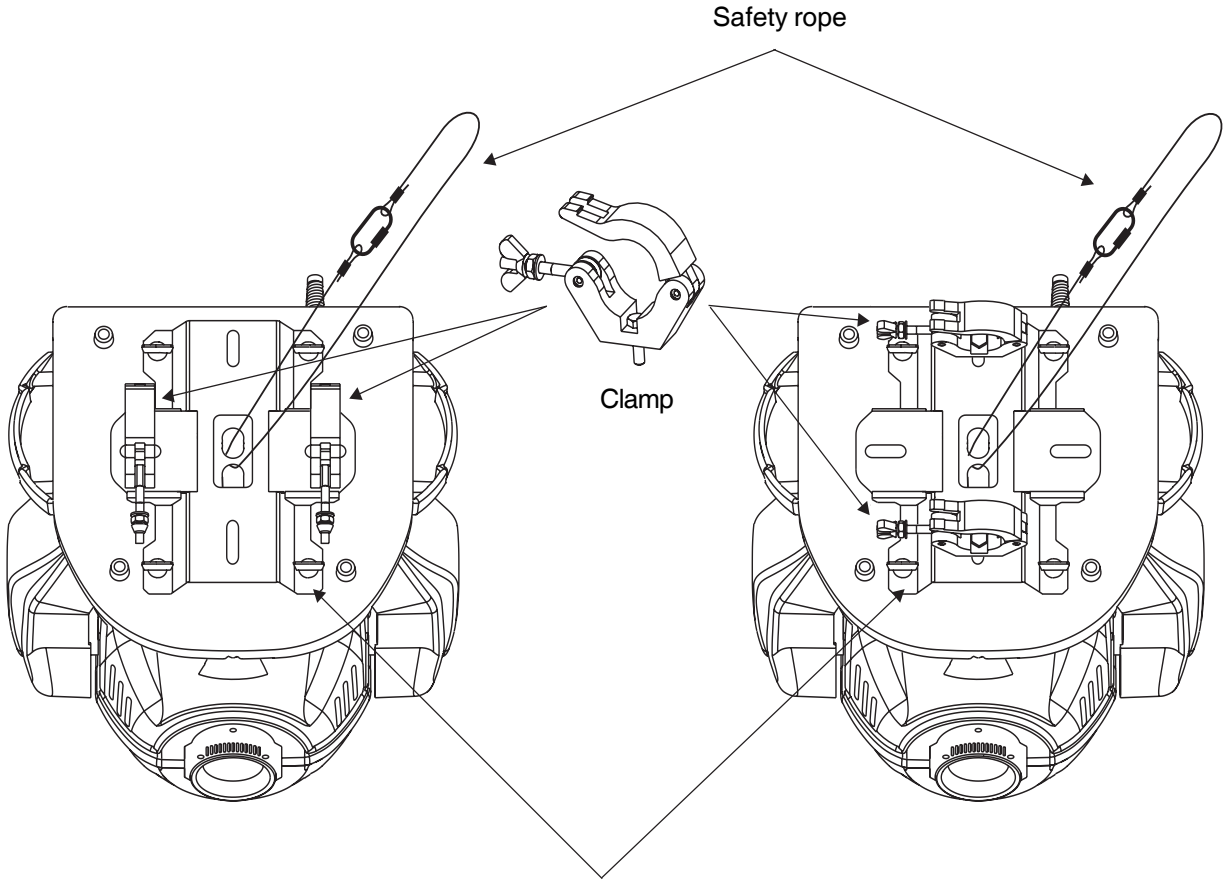
Fixation via the omega-holders (omega-holders are standard part of the fixture)
1. Screw each clamp to the included omega-holders with M12 bolt and nut through the hole in the holder.
2. Insert both quick-lock fasteners into the holes of the base and tighten fully clockwise.Install the second clamp.
3. Fasten the safety-rope through the two apertures on the bottom of the base and over the trussing system.

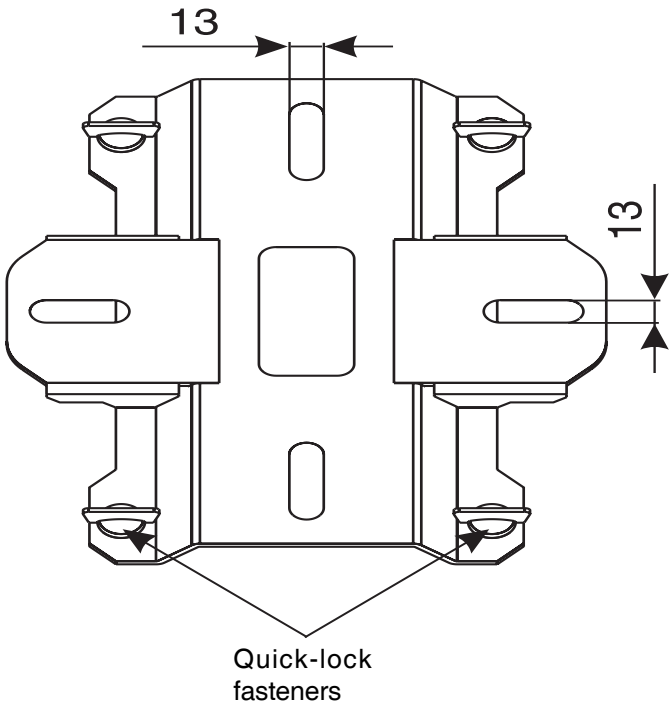


Fixation via a mounting plate (mounting plate is not standard part of the fixture)

The fixture's base enables to be mounted in two ways using the special mounting plate :

1. Screw the 2 clamps to the included mounting plate with M12 bolts and nuts through the holes in the mounting plate.
2. Insert the 4 quick-lock fasteners into the holes on the bottom of the base and tighten fully clockwise.
3. Fasten the safety-rope through the two apertures on the bottom of the base and over the trussing system.





3.4.Connection to the mains

Connect the fixture to the mains with the enclosed power-plug.
The earth has to be connected!

The occupation of the connection-cables is as follows:

Cable (EU)	Cable (US)	Pin	International
Brown	Black	Live	L
Light blue	White	Neutral	N
Yellow/Green	Green	Earth	⏚

3.5.Changing the power supply settings

Both the transformer and the ballast must be connected correctly for the local AC voltage and frequency.
The wrong settings can cause poor performance or demage of the moving head.The factory settings are printed next to the power switch.

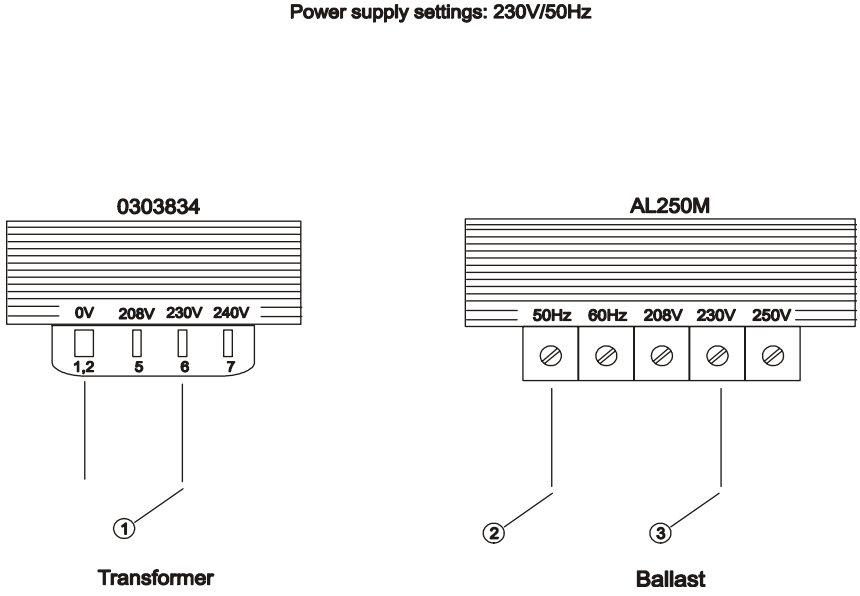
If you want to change the power supply settings,follow the instructions:

1.Disconnect the fixture from AC power.
2.Remove the front base cover by loosening the 3 screws.
3.Move the wire① on the transformer connection block to the position according to the desired voltage.
4.Move the wires② and③ on the ballast connection block to the position according to the desired frequency (voltage).
5.Close the base before applying AC power.

Examples:

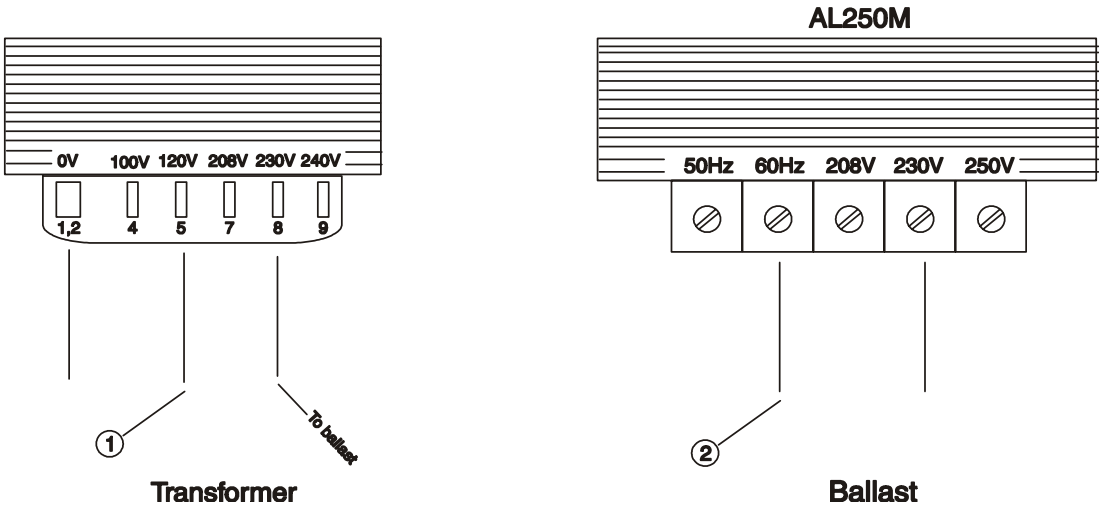
EU-version

power supply settings: 230V/50Hz

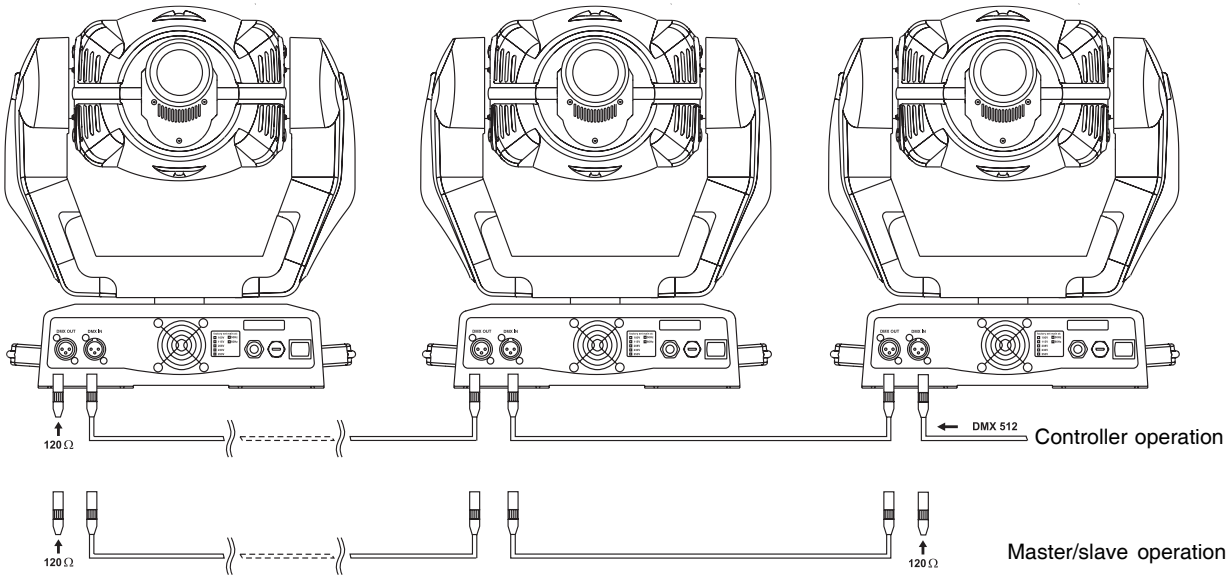


US-version

power supply settings: 120V/60Hz



3.6.DMX- 512 connection, master/slave connection

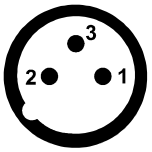


Only use a stereo shielded cable and 3-pin XLR-plugs and connectors in order to connect the controller with the fixture or one fixture with another.

Occupation of the XLR-connection:

DMX - output

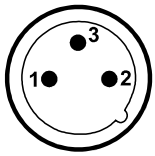
XLR mounting-socket:



1 - Ground
2 - Signal (-)
3 - Signal (+)

DMX-input

XLR mounting-plug:



1 - Ground
2 - Signal (-)
3 - Signal (+)

Building a serial DMX-chain:

If you are using standard controllers, you can connect the DMX-output of the controller directly with the DMX-input of the first fixture in the DMX-chain. If you wish to connect DMX-controllers with other XLR-outputs, you need to use adapter-cables.

Connect the DMX-output of the first fixture in the DMX-chain with the DMX-input of the next fixture. Always connect output with the input of the next fixture until all fixtures are connected.

Caution: At the last fixture, the DMX-cable has to be terminated with a terminator. Solder a 120 Ohm resistor between Signal (–) and Signal (+) into a 3-pin XLR-plug and plug it in the DMX-output of the last fixture.

Building a master/slave-chain:
Connect the DMX-output of the master fixture in the data-chain with the DMX-input of the first slave. Always connect output with the input of the next slave until all slaves are connected (up to 9 fixtures).
Caution: It's necessary to insert the XLR termination plug (with 120 Ohm) into the input of the master fixture and into the output of the last slave fixture in the data link in order to ensure proper transmission on the data link.

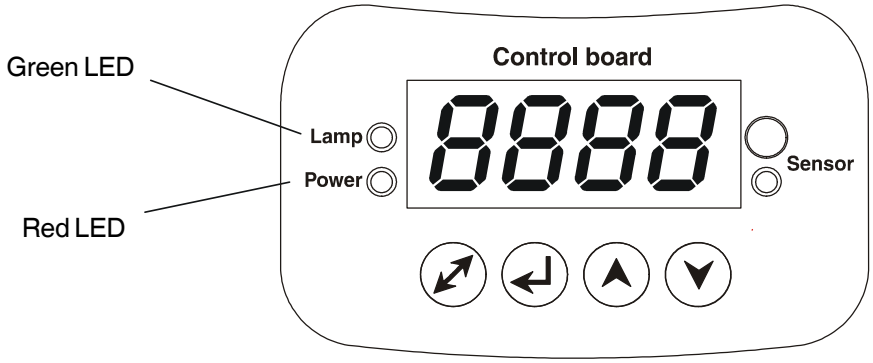
4.DMX Protocol

Channel 16 bit	Channel 8 bit	Value	Function	Type of control
1	1		**Pan**	
		0-255	Pan movement by 530°	proportional
2			**Pan fine**	
		0-255	Fine control of pan movement	proportional
3	2		**Tilt**	
		0-255	Tilt movement by 280°	proportional
4			**Tilt fine**	
		0-255	Fine control of tilt movement	proportional
5	3		**Speed of PAN/TILT movement**	
		0	Max. speed (tracking mode)	step
		1-249	From max. speed to min.speed (vector mode)	proportional
		250-252	Max. speed,(tracking mode)	step
		253-255	Max.speed (vector mode) ,black out while pan/tilt moving	step
6	4		**Lamp on/off,reset,fans speed control**	
		0-127	From max.speed of fan to min. speed of fan	proportional
		128-139	Lamp on,reset	step
		140-229	No function	step
		230-239	Lamp off after 3 sec	step
		240-255	No function	step
7	5		**Rotating gobos**	
		0-31	Open/hole	step
		32-63	Rot.gobo 1	step
		64-95	Rot.gobo 2	step
		96-127	Rot.gobo 3	step
		128-159	Rot.gobo 4	step
		160-223	Rot.gobo 5	step
		224-255	Rot.gobo wheel cont.rotation from slow to fast	proportional
8	6		**Rotating gobo index,rotating gobo rotation**	
		0-127	Gobo indexing	proportional
		128-190	Forwards gobo rotation from fast to slow	proportional
		191-192	No rotation	step
		193-255	Backwards gobo rotation from slow to fast	proportional
9	7		**Focus**	
		0-255	Continuous adjustment from far to near	proportional
10	8		**Dimmer,Shutter,strobe**	
		0-127	Gradual adjustment of the dimmer intensity from 0 to 100%	proportional
		128-159	Shutter open	step
		160-191	Shutter closed	step
		192-223	Strobe effect from slow to fast (max.10 flashes/s)	proportional
		224-255	Blackout while gobo changing (from slow closing/opening light output to fast closing/opening light output)	proportional

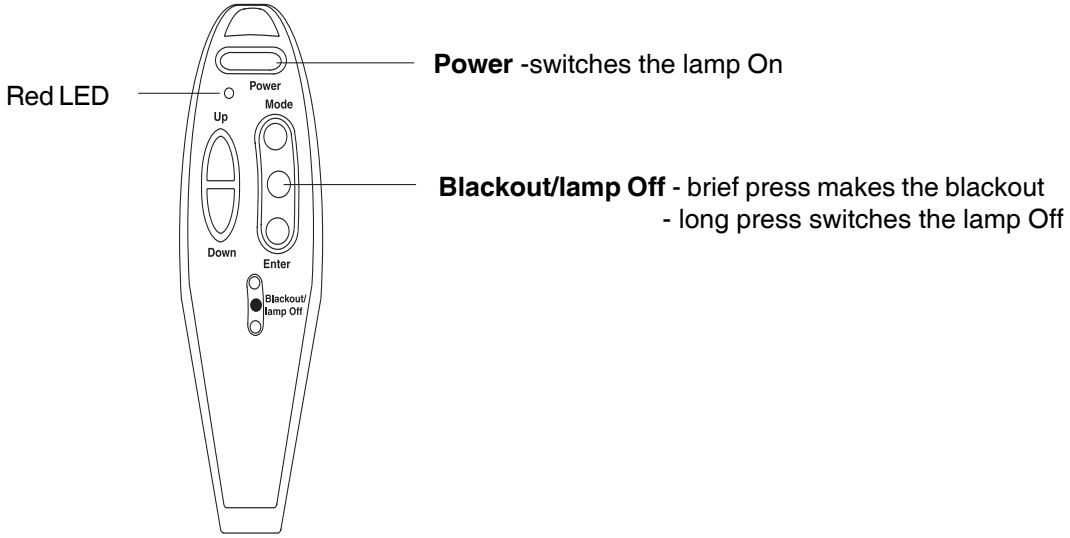
5.Control

The IMAGE SPOT 250 AT is controled by the 4-buttons control panel on the front side of the base or by the 6-buttons infra-red remote controller.

Control panel:
Two LEDs on the control panel display the fixture status. Red LED indicates normal operation after switching the fixture on.Green LED indicates the lamp is switched on.



Remote control:
The red LED on the remote control indicates if any button is pressed (the signal is transmited).
There are the 2 buttons on the remote control which have no aquivalent button on the control panel:[Power]-button and [Blackout/lamp Off]-button.



All user options may be set by the buttons of control panel or remote control. In the following text,the symbols **[Up]** , **[Down]**, **[Enter]** , **[Mode]** mean corresponding buttons on the control panel or remote control.

The IMAGE SPOT 250 AT can be operated with a controller in **controller mode** or without the controller in **stand-alone mode**.
Both modes are described in the texts below.

6.Controller mode

The fixtures are individually addressed on a data link and connected to the controller.The fixtures respond to the DMX signal from the controller.

6.1.DMX addressing

The control panel on the front side of the base allows you to assign the DMX fixture address, which is defined as the first channel from which the IMAGE SPOT 250 AT will respond to the controller.
If you set, for example, the address to channel 5, the IMAGE SPOT 250 AT will use the channel from 5 to 14 for control.
Please, be sure that you don't have any overlapping channels in order to control each IMAGE SPOT 250 AT correctly and independently from any other fixture on the DMX data link.
If two, three or more IMAGE SPOT 250 AT are addressed similarly, they will work similarly.
For address setting, please refer to the instructions under "Addressing"(menu "**A001"**).

Controlling:

After having addressed all IMAGE SPOT 250 AT , you may now start operating these via your lighting controller.
Note: After switching on, the IMAGE SPOT 250 AT will automatically detect whether DMX 512 data is received or not.If there is no data received at the DMX-input, the display will start to flash **"A001"** with actually set address. This situation can occur if:
- the 3 PIN XLR plug (cable with DMX signal from controller) is not connected with the input of the IMAGE SPOT 250 AT
- the controller is switched off or defective, the cable or connector is defective or the signal wires are swap in the input connector.

Note: It's necessary to insert the XLR termination plug (with 120 Ohm) to the last fixture in the link in order to ensure proper transmission on the DMX data link.

6.2.Remotely controllable functions

Lamp

The IMAGE SPOT 250 AT is to be operated with a MSD 250/2 GY-9,5 lamp.
A relay inside of the IMAGE SPOT 250 AT allows you to switch on and off the lamp via the control panel on the top side of the base or via your remote control without affecting the rest of the lighting.
To switch On/Off the lamp,use the **[Power]**-button or **[Blackout/lamp Off]**-button on the remote control .You can use also menu "**LAMP**"- please refer to "Switching On/Off the lamp ".
Note: It is also important to note, that the discharge lamp is cold restrike types, that means, that they have to be cold before re-striking. For this reason, you have to wait 5 minutes (max. speed of fan must be adjusted) after having switched Off the lamp before you can switch it back On again. If you try to switch On the lamp within 5 minutes after having switched it Off, the IMAGE SPOT 250 AT will store this information and automatically ignite the lamp when the 5 minutes period has expired. The message **"HEAt"** will appear on the control panel display of the IMAGE SPOT 250 AT. If the ignition of the lamp is seven times unsuccessful, on the display will appear **"LA.Er"**, meaning that the lamp could be damaged or even missed, or there could be a failure on the ignitor or ballast.

Rotating gobo-wheel

The rotating gobo-wheel includes 5 replaceable and indexable gobo posisitions.

Focus

Motorized focus enables the beam to be focused anywhere on the stage.

Dimmer/Shutter/Strobe

Smooth 0 - 100 % dimming is provided by the combined mechanical dimmer/shutter unit. This unit may also be used for strobe effect (max. 10 flashes per second).

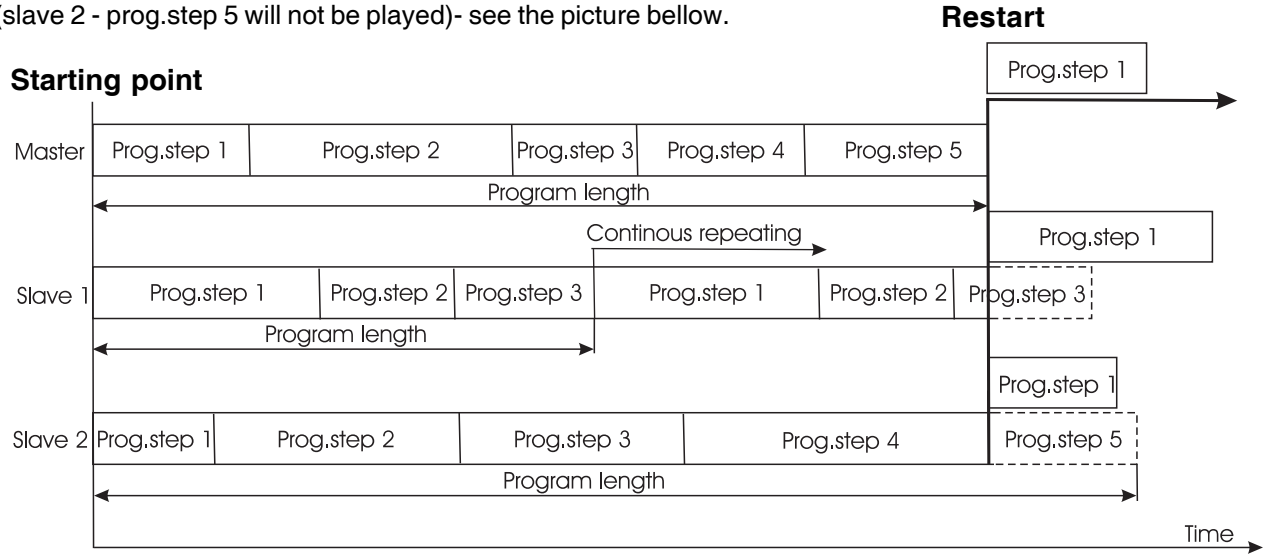
Fans

The IMAGE SPOT 250 AT is cooled by three axial fans - two in the projector head and one in the base. The speed of the fans (and of course the noise) can be continuously reduced if very quiet performance is required.
By the control panel using the **"FAnS"** function you can choose 5 types of the fan speed operating modes.

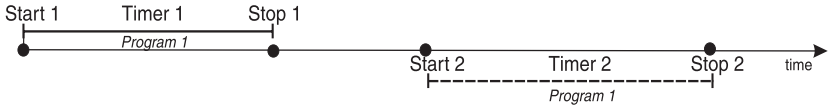
7.Stand - alone mode

The fixtures on a data link are not connected to the controller but can execute pre-set programs which can be different for every fixture.To set the program to be played,see the "Stand-alone setting" **(** menu **"St.AL."**).

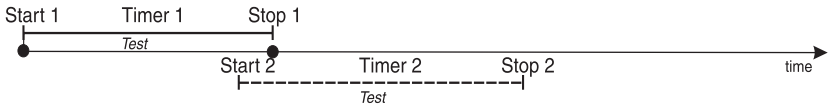
"Stand-alone operation" can be applied to the single fixture (the fixture may be set to the master /slave mode or controller mode) or to multiple fixtures operating synchronously.
Synchronous operation of multiple fixtures requires that they must be connected on a data link and one of them is set as a master (master mode) and the rest as the slaves (slave mode).The slaves are assigned to SLA1-SLA9 and on the certain slave address can be connected only one fixture.To set the fixture as the master or slave , see the "Addressing" (menu "**A001"**).
If the master fixture runs a reset,switches On/Off the lamp or plays program ,all slaves will execute these acts too.
You can't play or edit any programs on the slaves by their control panels if the master is switched on and runs its program.
The master fixture starts simultaneous program start in the other slave fixtures.All fixtures have a definite, synchronized starting point when playing back their programs.The number of running program is the same in all slaves and depends on the master's choice (menu "**St.AL.**").Every fixture runs its program repeatedly ,starting the program step No.1 when requested by the master .
For example:
If the slave fixture has a shorter program length, it will continously repeat its program until the master fixture finishes its own program and restarts its program running (slave 1- prog.step 3 will not be finished).
If the slave fixture has a longer program length, it will restart at prog. step 1 before it completes all its prog.steps (slave 2 - prog.step 5 will not be played)- see the picture bellow.



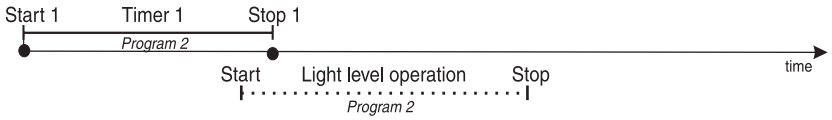
Stand-alone operation can be set for one or two periods during a 24 hour period,using the built-in clock or for a light level,using the built-in light sensor.If both the clock and the light sensor are active, operation starts within the set times or if it is darker than the light-level setting.Operation stops at the stop times or if that the ambient light is brighter than the set light level.
If the time periods overlap each other or if the time period overlaps the light level period,the fixture will respond to the events according to their ranks.
For example:



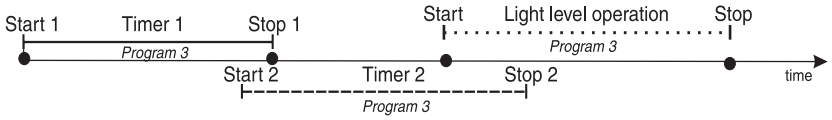
All events will be executed (Start1,Stop1,Start2,Stop 2).



The events Start 1 and Stop 2 will be executed only.



The events Start 1 and Stop will be executed only.



The Time period1 and Light period will be executed ,the Time period 2 is eliminated.

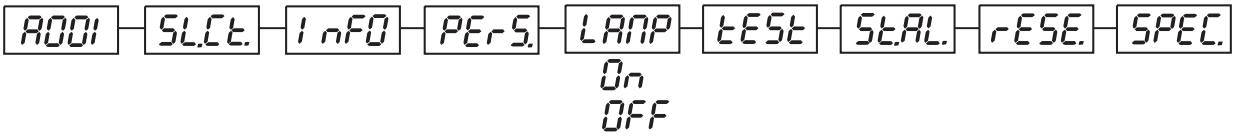
The played program is the same for all time(light level) periods.

From the master's control panel is possible to control any slave in a master/slave chain.

Note: Disconect the fixtures from the DMX controller before master/slave operating ,otherwise data collisions can occur and the fixtures will not work properly!
Note: It's necessary to insert the XLR termination plug (with 120 Ohm) into the input of the master fixture and into the output of the last slave fixture in the data link in order to ensure proper transmission on the data link.

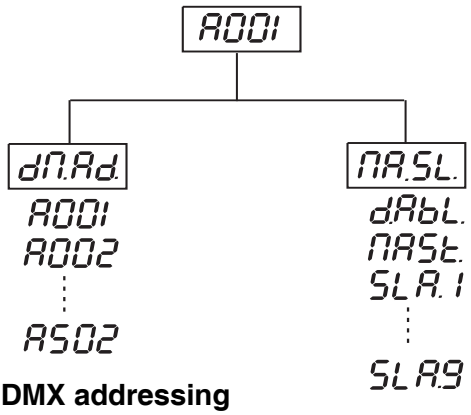
8.Functions of the control panel

The control panel situated on the front side of the base offers several features. You can simply set the DMX address,master/slave mode, read the number of lamp or unit hours, switch On and Off the lamp, run test, make a reset and also use many functions for setting and service purposes.
The main menu of the control panel is accessed by pressing the **[Mode]** button - press this one so many times until the display shows message **"A001"** (with actually stored address). Browse through the menu by the pressing **[Up]** and **[Down]** buttons - the display shows step by step these messages: **A001,SLCt, InFO,PErS, LAMP, tESt, StAL,rESE, SPEC**. Press **[Enter]** if you wish to select one of them. The functions are described in the following sections and the function hierarchy is shown below.



8.1.Addressing

By this menu you can set the DMX address or address the fixture as a master/slave.



- DMX addressing

1. Press the **[Mode]-** button so many times until the display shows message **"A001"** (with actually stored address).
2. Press **[Enter]**-button and use the **[Up]** and **[down]** buttons to select"**dM.Ad.**"-menu.
3. Press**[Enter]**-button(the letter "A" flashes) and by **[Up]** and **[down]** buttons select required address,press **[Enter]**-button to confirm.
4. Select **"MA.SL."**-menu,press**[Enter]**-button and use **[Up]** and **[down]** buttons to select "**d.AbL.**"(no master or slave),press **[Enter]** to confirm.
5. Press the **[Mode]-** button.Choosen address is shown on the display.

If message **"A001"** (with actually stored address) flashes-no DMX data received at the DMX-input.

- Master/slave adressing

1. Press the **[Mode]** button so many times until the display shows message **"A001"** (with actually stored address).

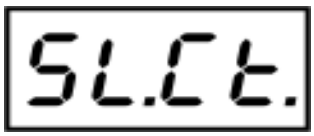
2. Press **[Enter]**-button and use the **[Up]** and **[down]** buttons to select **"MA.SL."**-menu.
3. Press**[Enter]**-button(display flashes) and select**"MASt."**(to set the fixture as the master in a chain of multiple fixtures) or **"SLA.1"**-**"SLA.9"** (to set the fixture to be the slave in a chain of multiple fixtures) and press **[Enter]** to confirm. If you want address no master or slave, select "**d.AbL.**".
4. Press the **[Mode]-** button.Choosen address is shown on the display.

If message **"MASt."** fast flashes-DMX signal is received at the DMX-input- disconnect DMX controller!
Only one fixture may be the master. Up to the 9 slaves may be connected to the master and on the certain address can be connected only one slave fixture (SLA.1-SLA.9).

Note: Disconect the fixtures from the DMX controller before master/slave operating ,otherwise data collisions can occur and the fixtures will not work properly!
If the fixture is set as the master and DMX signal is connected to its input,the error massage "MA.Er." will appear on its display and the fixture address will be set to its DMX address in order to respond to DMX signal from the controller.
For example:
The master fixture has this address setting:"dM.Ad."-menu.....**A011**
"MA.SL."-menu.....**MASt.** (is displayed)
The DMX signal is connected to the master fixture.The message **"MASt."** starts fast flashing and after 20s error massage "MA.Er." appears on its display and the fixture automatically will be switched to its DMX address (master address is disabled).
Now the fixture has the address setting: "dM.Ad."-menu.....**A011** ("A011"/ MA.Er."blinks)
"MA.SL."-menu.....**d.AbL.**

If the fixture is set as the slave and DMX signal is connected to its input,the fixture will respond to DMX signal from the controller (in dependence on the fixture's DMX address).

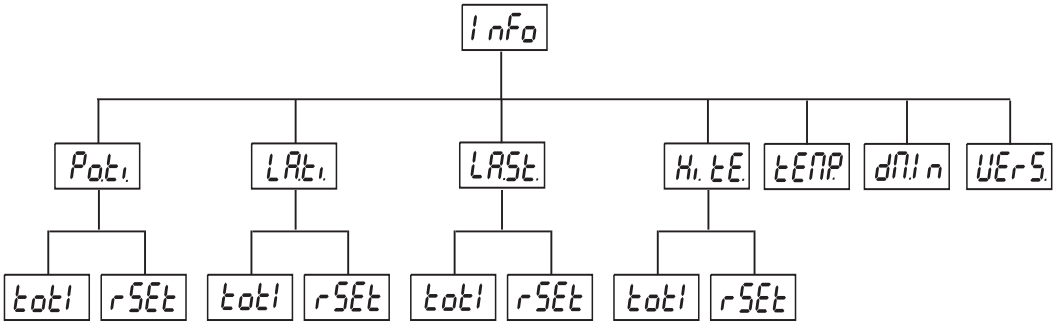
8.2.Slave control



This function allows you to control the slaves from the master's control panel in a master/slave operation.
Select this function from the main menu and press **[Enter]**-button.Browse the list of all connected slaves (**"SL.C.1" - "SL.C.9"**) by pressing **[Up]** or **[Down]** button.Select the desired slave and press **[Enter]**-button.The slave's control panel is available from the master's control panel.
If no slave is connected to the master,massages "SL.C.1","SL.C.2","SL.C3"..."SL.C.9" still round repeat.
Note: This function is available from the master fixture only.

8.3.Fixture informations

The menu allows you to read an useful information about the fixture as the lamp life,head temperature,software version, etc.
Press **[Up]** and **[Down]** buttons to select the desired option and press **[Enter]** to see the value or next submenu.



- Power On time

- By this option you can read the total number of the operation hours since the IMAGE SPOT 250 AT has been fabricated. Press **[Enter]** or [Mode] to return to the menu.

- The number of the hours that the IMAGE SPOT 250 AT has been powered On since the counter was last reset.Press **[Enter]** or **[Mode]** to return to the menu.In order to reset this counter to 0, you have to hold the **[Up]** and **[Down]**-button and press the **[Enter]**-button.

- Lamp On time

- This option enables you to read the total number of the operation hours with the lamp on since the IMAGE SPOT 250 AT has been fabricated.Press **[Enter]** or **[Mode]** to return to the menu.

- The number of hours that the lamp has been powered On since the counter was last reset.Press **[Enter]** or **[Mode]** to return to the menu. In order to reset this counter to 0, you have to hold the **[Up]** and **[Down]**-button and press the **[Enter]**-button.

- Lamp strikes

- By this option you can read the total number of the lamp strikes since the IMAGE SPOT 250 AT has been fabricated.Press **[Enter]** or **[Mode]** to return to the menu.

-The number of the lamp strikes since the counter was last reset.Press **[Enter]** or **[Mode]** to return to the menu. In order to reset the counter to 0, you have to hold the **[Up]** and **[Down]**-button and press the **[Enter]**-button.

- Max. fixture head temperature

- By this option you can read the max. temperature of the head inside since the IMAGE SPOT 250 AT has been fabricated.Press **[Enter]** or **[Mode]** to return to the menu.

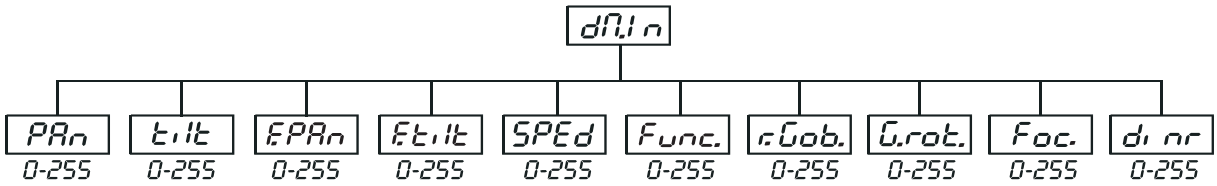
- Max. temperature of the head inside since the counter was last reset.Press **[Enter]** or **[Mode]** to return to the menu. In order to reset the counter to 0, you have to hold the **[Up]** and **[Down]**-button and press the **[Enter]**-button.

- Current fixture head temperature

Temperature readouts of the head inside in Celsius. Inside temperatures below 74° C are not critical. 74° C and more lead to the lamp being switched off. Please note that the outside temperature should not exceed 45° C.

- DMX values

Readout DMX values of each channel received by the fixture. Use the **[Up]** and **[Down]** buttons to select desired channel and press **[Enter]** to read its value coming to the fixture or **[Mode]** to cancel and return to the menu.

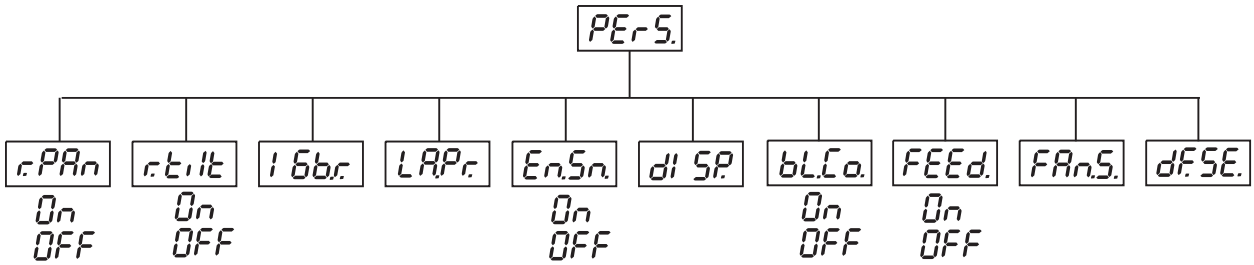


- Software version

By this function you can read the software versions of the display module. Press **[Enter]** to read its value or [Mode] to return to the menu.

8.4.Personality options

These options allow you to modify IMAGE SPOT 250 AT operating behavior.
Press **[Up]** and **[Down]** buttons to select the desired option and press **[Enter]** to set the value or to see next submenu.



- Pan reverse

This function allows you to invert the pan movement. Use the **[Up]** and **[Down]** buttons to select **"On"** if you wish this feature or **"Off"** if you don't wish this feature and press **[Enter]** to confirm or **[Mode]** to cancel and return to the main menu.

- Tilt reverse

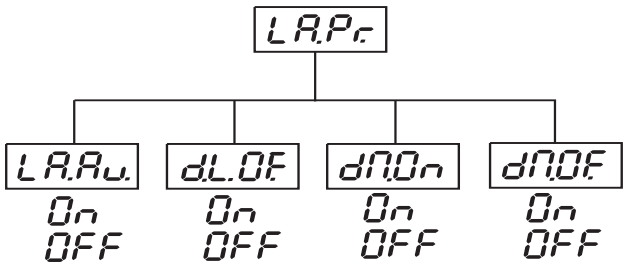
This function allows you to invert the tilt movement. Use the **[Up]** and **[Down]** buttons to select **"On"** if you wish this feature or **"Off"** if you don't wish this feature and press **[Enter]** to confirm or **[Mode]** to cancel and return to the main menu.

- Movement resolution

By this function you can adjust the 16-bit movement resolution or 8-bit resolution (8bit).
Use the **[Up]** or **[Down]** keys to select the desired movement resolution and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

- Lamp presetting

This function allows you to adjust the lamp settings:



LA.Au. - Lamp On after switching the fixture On

This function enables to turn the lamp on automatically after switching the fixture on. Use the **[Up]** and **[Down]** buttons to select **"On"** if you wish to turn the lamp on automatically after switching the fixture on or **"Off"** if you wish the lamp off after switching on the fixture and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

dL.OF. - Lamp Off via DMX

This function allows you to switch off the lamp by DMX. Use the **[Up]** and **[Down]** buttons to select **"On"** if you want to switch off the lamp by DMX or **"Off"** if you don't want to switch off the lamp by DMX and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

dN.On - Lamp On if DMX is present

This function allows you to strike the lamp automatically after 26 s if DMX signal is present on the data link.If the ignition is unsuccessfull (e.g.lamp is too hot),the fixture will try to ignite the lamp after next 26 s.This process will repeat until the lamp lights. Use the **[Up]** and **[Down]** buttons to select **"On"** if you want to strike the lamp or **"Off"** if you don't want to strike the lamp and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

dN.OF. - Lamp Off if DMX is missing

This function allows you to switch Off the lamp automatically after 2 minutes if DMX signal is missing on the data link. Use the **[Up]** and **[Down]** buttons to select **"On"** if you want to switch Off the lamp or **"Off"** if you don't want to switch Off the lamp and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

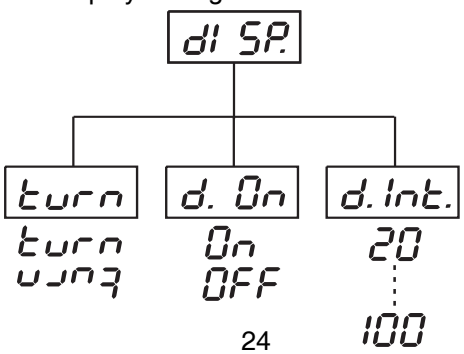
En.Sn. - Switch On/Off the lamp light sensor

Use the **[Up]** and **[Down]** buttons to select **"On"** if you wish to switch the lamp light sensor on and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.**The option"On" is for the standard operation.**Use the **[Up]** and **[Down]** buttons to select **"Off"** if you wish to switch the lamp light sensor off and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

Important: The option"Off" is for "emergency operation" only if the lamp light sensor is defective and you will wait for a service intervertion! If the lamp light sensor is switched Off,the error messages "**LAEr,SnEr,HEAt**" will not appear on the display (only the message "HEAt" will appear if the lamp was turned off and on within 5 minutes) and at switching the lamp On the electronics will still try to ignite the lamp until it shines (even when the lamp is damaged or absent), on this account some electronics parts could be damaged!

dI SP. - Display adjusting

This function allows you to adjust the display settings:



dI.nt. - Display intensity

With this function you can adjust the display-intensity from 20% to 100% . Use the **[Up]** and **[Down]** buttons to select the level of the display- intensity and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

turn - Display-reverse

With this function, you can rotate the display by 180°. Use the **[Up]** and **[Down]** buttons to select "normal display" or "display turned by 180°" and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

d.On - Display-On

This function allows you to keep the display on or to turn Off automatically 2 minutes after last pressing any button on the control panel. Use the **[Up]** and **[Down]** buttons to select **"On"** if you wish to keep the display on or **"Off"** if you wish to turn off automatically 2 minutes after last pressing any button on the control panel and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

bL.Co. - Blackout during movement correction

The function executes the blackout during the head movement correction (the moving head has lost its right pan/ tilt-position for a short moment). Use the **[Up]** and **[Down]** buttons to select **"On"** if you want to execute the blackout or **"Off"** if you don't and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

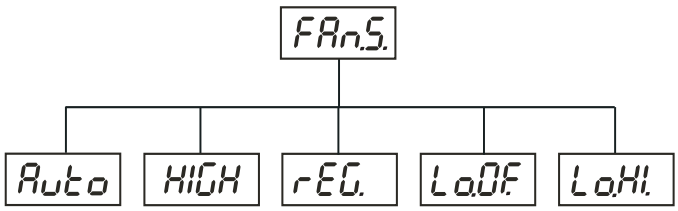
FEEd. - PAN/TILT-feedback

This function allows to return the mowing head to the required pan/tilt position after changing the position by external force (e.g.by stroke). Use the **[Up]** and **[Down]** buttons to select **"On"** if you wish to enable this function or **"Off"** if you wish not to return the mowing head to the required position and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

Note: If the feedback was switched Off ,the pan/tilt-position is changed by an external force and the feedback is switched On again,the moving head might not to be synchronized with the DMX signal.You have to make a reset in order to synchronize the moving head with the DMX signal.

FAn.S. - Fan speed operating modes

By using this function you can choose 5 types of the fan speed operating modes. Browse through this menu by the pressing **[Up]** and **[Down]** buttons - the display shows step by step these messages: **"Auto,HIGH, reG, LoOF, LoHI"**. Press **[Enter]** if you wish to select one of them or **[Mode]** to cancel and return to the menu.



Auto - continuous controlling of the fan speed without the DMX value

The fans automatically raise their speed in order to control inside temperature of the lighting, if the temperature inside increases about certain level (the low fan speed reduces the cooling of the lighting). This cycle can repeat several times until the temperature inside is on suitable level.The initi al level of the fan speed can´t be adjusted by the DMX.

HI GH - high (max.) speed of fans

The cooling fans work on max. speed (max. cooling)

rEG. **- continuous controlling of the fan speed**

This mode is similar to "Auto", but the initial level of the fans speed can be adjusted by the DMX.

Lo.OF. **- low speed/Switch Off the lamp operating**

The fans keep the adjusted low speed until the temperature exceeds max. inside temperature of the fixture, then the IMAGE SPOT 250 AT automatically switches Off the lamp.

Lo.HI. **- low/high speed of the fan operating**

The fans keep the adjusted low speed until the temperature exceeds max. inside temperature of the fixture, then the IMAGE SPOT 250 AT automatically switches from low to high the fan speed.

Note: The modes "Auto" and "HIGH" don´t interact to the DMX value on the channel 6 (0-127)!

dF.SE. **- Default settings**

Press **[Enter]** to reset all fixture personalities (not the adjusting functions) to the default values. On the display will appear **"rSt"** meaning that the fixture makes the reset. See the table of personality setting and their default positions.

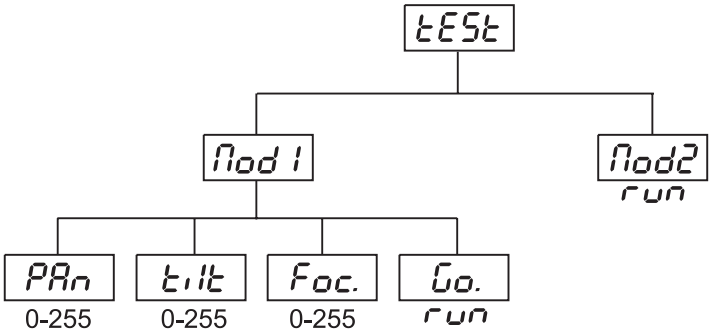
Personality	Display	Default values (SHADED)
Pan reverse	rPAn	On OFF
Tilt reverse	rtiLt	On OFF
Movement resolution	16br	On OFF
Lamp On after switch. the fixture On	LAAu	On OFF
Lamp Off via DMX	dLOF	On OFF
Lamp On if DMX is present	dMOn	On OFF
Lamp Off if DMX is missing	dMOF	On OFF
Blackout during mov. correction	bLCo	On OFF
Display-On	d On	On OFF
Display intensity	d Int	20 40 60 80 100
Display- reverse	turn	turn usnɔ
PAN/TILT feedback	FEEd	On OFF
Switch On/Off the lamp light sensor	EnSn	On OFF
Presetting playback	Auto	On OFF
Light level-start	On L	0-255 0
Light level-stop	OFFL	0-255 255
Timer 1-start	Ont1	0000-2359 OFF
Timer 1-stop	OFt1	0000-2359 OFF
Timer 2-start	Ont2	0000-2359 OFF
Timer 2-stop	OFt2	0000-2359 OFF
Fan speed operating modes	FAnS	Auto HIGH rEG LoOF LoHI

8.5.Switching On/Off the lamp

Press the **[Mode]** button in order to access the main menu. Browse through the menu by pressing the **[Up]** and **[Down]** buttons until the display shows **"LAMP"**. Confirm by pressing **[Enter]** button.
Use the **[Up]** and **[Down]** buttons to select **"On"** to switch On the lamp and **"Off"** to switch Off the lamp and press **[Enter]** to confirm or **[Mode]** to cancel.

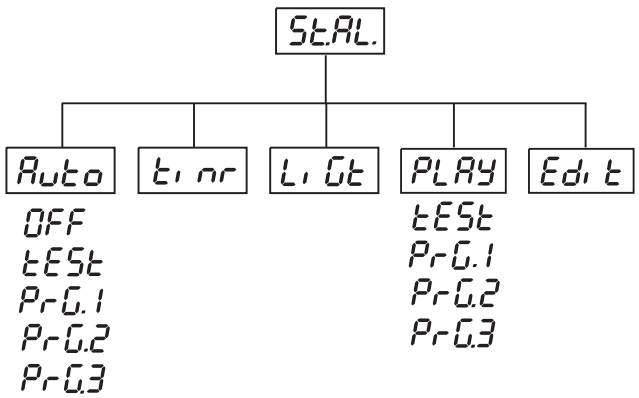
8.6.Test sequences

This function allows you to run a special demo-test sequences without an external controller, which will show you some possibilities of using IMAGE SPOT 250 AT. Press **[Up]** and **[Down]** keys to select the **"Mod1"** or **"Mod2"** sequences. The **"Mod1"** is suitable for projections on the wall, ceiling or ground without any head-movement, the **"Mod2"** uses all IMAGE SPOT 250 AT functions and therefore is good for a complete introduction of the fixture.Select "**Mod1**" or "**Mod2**" by **[Up]** and **[Down]** buttons and press **[Enter]** to confirm the choice.If the test program is running,messages "**run/test.**" blink on the display.
If you want to pause the runnnig program in the required position, press the **[Enter]-**button(messages"**PAUS.**"/" **test.**" blink).To continue the program running,press the **[Enter]-**button again.



8.7.Stand-alone setting

This menu offers options for stand-alone mode as a selection of the playing program,programming and modifying current programs.You can run programs at pre-defined two periods during a 24 hour period or at a certain light level.



-Presetting playback

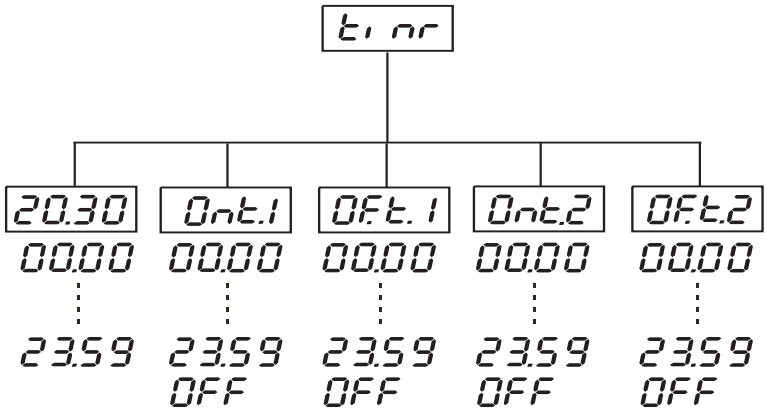
This function allows you to select the the program which will be played in the stand-alone mode after switching the fixture on(**LAAu-**function must be "**On**" in the menu **LAPr)** .The selected program will be also used for the operating with the time periods or the light level period(**LAAu-**function must be "**OFF**" in the menu **LAPr)**.
Use the **[Up]** and **[Down]** buttons to select desired program ("**tESt**"- bilt-in program) or **"OFF"** if you don't want to trigger any program and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.Selected program will be played continuously in a loop as long as it appears on the display.
This option should be set "**OFF**" for all slaves in the master/slave chain by reason of the right program starts.
For example: You have selected program "**PrG.3**" in this menu and:
This fixture is set as a single fixture (master/slave or controller operating)- the fixture will run its program "**PrG.3**".
This fixture is set as a master in a data chain- the fixture will run its program "**PrG.3**".
This fixture is set as a slave in a data chain- the fixture will run its program according to the master(if the master runs its own program "**PrG.1**", the slave will run its own program "**PrG.1**"also).

Note for the controller mode: If the fixture operates in this mode (DMX controller is connected) and any program from this menu is selected ,the fixture will start to play the selected program if:
- the fixture is switched on
- the reset command from DMX controller is received
- the timer or light level trigger are active and starts the operation

In all these cases the fixture will not respond to the DMX controller.

-Timer

By this menu you can set one or two periods during a 24 hour time period for the stand-alone operation.For example ,one period in the morning and one period in the evening.



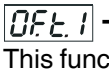
-Fixture clock

This function allows to set the current fixture time. Use the **[Up]** or **[Down]** buttons to set the hour and press **the [Enter]**-button.Use the **[Up]** or **[Down]** buttons to set the minutes and press the **[Enter]**-button to save the adjusted time or press the **[Mode]**-button twice to cancel and return to the menu.

.

-Timer 1 -start

This function sets the start of the time period 1.Use the **[Up]** or **[Down]** buttons to specify the start hour and press the **[Enter]**-button.Use the **[Up]** or **[Down]** buttons to specify the start minute and press **[Enter]**.



-Timer 1-stop

This function sets the finish of the time period 1.Use the **[Up]** or **[Down]** buttons to specify the stop hour and press the **[Enter]**-button.Use the **[Up]** or **[Down]** buttons to specify the stop minute and press **[Enter]**.

If you wish to deactivate the Timer 1,set Ont1="Off" and OFt1="Off".

Ont2 -Timer 2 -start

This function sets the start of the time period 2.Use the **[Up]** or **[Down]** buttons to specify the start hour and press the **[Enter]**-button.Use the **[Up]** or **[Down]** buttons to specify the start minute and press **[Enter]**.

OFt2 -Timer 2-stop

This function sets the finish of the time period 2.Use the **[Up]** or **[Down]** buttons to specify the stop hour and press the **[Enter]**-button.Use the **[Up]** or **[Down]** buttons to specify the stop minute and press **[Enter]**.

If you wish to deactivate the Timer 2,set Ont2 ="Off" and OFt2 ="Off".

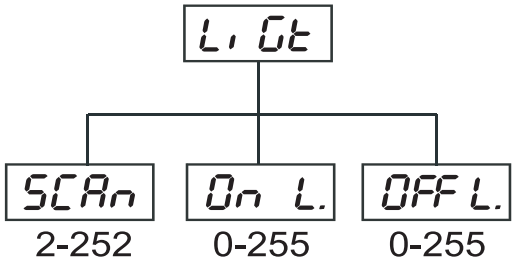
Note:Please, be sure that you don't have any overlapping time periods to ensure the correct operation.
Don´t forget to choose the program which will be playing when the fixture operates (menu **Auto**).
If you want to modify the fixture clock or the time limits,do it when the program is not runnig,otherwise the current time period will not be finished correctly.

How to set the time period operation:

1.Set **LAAu-**function to "**Off**"(menu **PerS,**submenu **LAPr)** .
2.Set the timer 1 and timer 2 (menu **StAL,**submenu **timr).**
If you will use only one time period for operations,deactivate the timer 2.
3.Choose the desired running program (menu **StAL,**submenu **Auto).**
4.Deactivate the light level trigger (menu **StAL,**submenu **LiGt).**

LiGt -Light level trigger

By this menu you can set a light level for the stand- alone operation.If the light intensity falls below the specified level then operation will start.



SCAn -Scanning the ambient light level

Press the **[Enter]** button to scan the current ambient light level (2-darkest,252-brightest).This value is useful as a comparative level for setting both start and stop light levels for operation in the stand-alone mode . The scanning takes about 7 seconds.By pressing the **[Mode]-** button you can return to the menu.

On L. -Light level - start

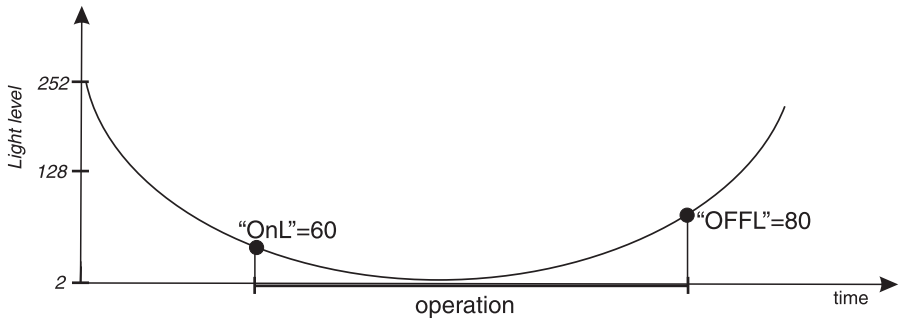
Use the **[Up]** and **[Down]** buttons to select the required light level when the operation is to be started (3-251) and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.Don´t forget to choose the program which will be playing when the fixture operates (menu "Auto").
Important: The values 0,1,2,252,253,254,255 do not affect the state of the fixture.

OFFL. -Light level -stop

Use the **[Up]** and **[Down]** buttons to select the required light level when the operation is to be finished (3-251) and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.
Important: The values 0,1,2,252,253,254,255 do not affect the state of the fixture.

If you wish to deactivate the light level trigger,set the "OnL"= 0 and "OFFL"= 255.

Example of the light level operation:



How to set the light level operation:

1.Set **LAAu-**function to "**Off**"(menu **PerS,**submenu **LAPr)** .
2.Set the start and stop light levels for fixture operating (menu **StAL,**submenu **LiGt).**
3.Choose the desired running program (menu **StAL,**submenu **Auto).**
4.Deactivate the timer 1 and timer 2 (menu **StAL,**submenu **timr).**

Note:The light sensor has the 2 minutes delay for the start/stop of the light level operation to eliminate the random light fluctuations.If the fixture is placed close to the changeable ambient illumination (e.g.neon signs),the time period for stand-along operation may be useful than the light level setting.

PLAY - Playing program

This function allows you to run a bilt-in program **"tESt"** and the 3 freely-programmable programs **"PrG1,PrG2,PrG3"** .Press **[Up]** or **[Down]** buttons to select the desired program and press **[Enter] t**o run the program which will be played continuously in a loop**.**
If you want to pause the runnnig program in the required position, press the **[Enter]-**button(messages"**PAUS.**"/" **program No**."blink).To continue the program running,press the **[Enter]-**button again.
Note:If the fixture operates in the controller mode (DMX controller is connected) and any program from this function is selected in this case the fixture will not respond to the DMX controller and will play selected program. You can't play programs on the slave fixtures from their control panels if the master fixture is switched on and connected to the slaves (playing is forced by the master).

Edit. - Editing program

This menu item allows you to select a program to edit or create.The IMAGE SPOT 250 AT has one built-in program (**"tESt"**) and the 3 free programs,each up to 99 steps.
If the fixture is set as a master ,then you may edit any program in the slaves.You can't edit programs on the slave fixtures from their control panels if the master fixture is switched on and connected to the slaves (editing is possible by the master control panel only).

Procedure:

1. Press **[Up]** or **[Down]-**button to select the program you want to edit ("PrG.1" - "PrG.3") and press **[Enter]**.
2. Press **[Up]** or **[Down]-**button to select the desired fixture ("MASt." - "SLA.9") and press **[Enter]**-button.
3. Press **[Up]** or **[Down]-**button to select the desired program step ("St.01" - "St.99") and press **[Enter]**-button.
4 Press **[Up]** or **[Down]-**button to select the desired item and press **[Enter]-**button.Now you can edit by **[Up]** or **[Down]** buttons the DMX value for selected item:

- **"P.End." -** total number of program steps,value 1-99 .**This value you must set before start programming**(e.g. if you want to create program with the 10 steps,set the value onto 10).
- **"PAn" -** a pan,value 0-255
- **"tilt" -** a tilt,value 0-255
- **"F.PAn" -** a fine pan, value 0-255
- **"F.tilt" -** a fine tilt,value 0-255
- **"SPEd" -** a speed of PAN/TILT movement,value 0-255
- **"r.Gob." -** a rot.gobo,value 0-255
- **"G.rot." -** a rot. gobo rotation,value 0-255
- **"Foc." -** a focus ,value 0-255
- **"dimr" -** a dimmer, value 0-255
- **"S.tim." -** a step time,value 0,1-25,5 seconds
- **"COPY." -** a copying the current prog. step to the next prog. step .If the last prog.step is copied to the

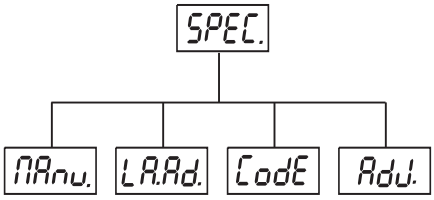
next prog. step ,parameter **"P.End"** is increased about 1 automatically (except step 99).
5. Press **Enter]-**button to confirm adjusted value .
6. Press **[Mode]-**button,select next prog. step and repeat this procedure (steps 4 and 6).
The editting programs "PrG.1,PrG.2,PrG.3" are saved in the current modified fixture (master or slave1-9).

8.8.Reset function

Press **[Enter]** button to run a reset. This option enables the IMAGE SPOT 250 AT to index all effects (functions) and return to their standard positions.

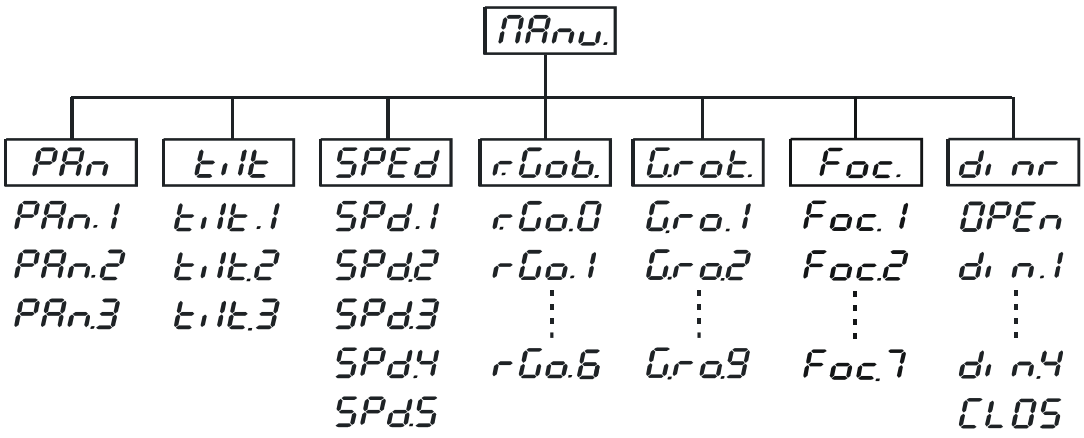
8.9.Special functions

Use the **[Up]** and **[Down]** buttons to browse through the special functions and select the one by pressing **[Enter]**.



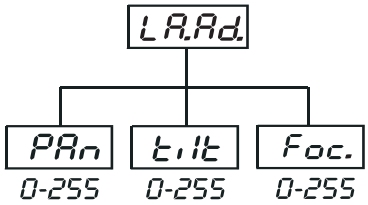
- Manual control of effects

The function allows you to control manually the channel functions of the fixture. Use the **[Up]** and **[D o w n]** buttons to select desired function and press **[Enter]** to adjust the effect or **[Mode]** to cancel and return to the menu.



- Lamp adjustment

This function can be used when you make the fine adjustment of the lamp.If you select "**LAAd**" pressing by **[Enter]**-button ,all effects will be canceled,shutter will be opened and the dimmer intensity will be set onto 100%.By using the options "**PAn, tilt,Foc**" you can focus the light on a flat surface (wall) and perform the fine lamp adjustment.

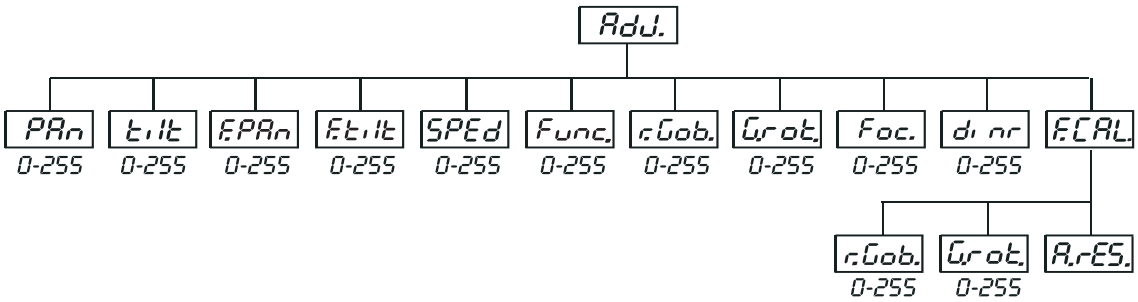


CodE - Fixture code

The option contains identification code (1-9999) for the fixture, which is used for the master/slave operation.

AdJ. - Adjusting the default positions of gobo wheels

By this function you can calibrate and adjust the gobo wheels to their standard/right positions. Disconnect the controller.Use the **[Up]** and **[Down]** buttons to browse through the adjusting menu - the display shows step by step these messages: **"PAn,FPAn, tilt,Ftilt,SPEd,Func,rGob, Grot, Foc, dimr, FCAL"** by which you can adjust the fixture to the required/desired position (0-255) before the function calibration. Then when the positioning is finished use the last **"F.CAL."** function (Fixture calibration).



1. Calibration via the control panel

Press **[Enter]** and the **[Up]** and **[Down]** buttons in order to display the following messages: **"rGob,Grot"** for very smooth function calibration. Select one item by **[Enter]** and use the **[Up]** and **[Down]** buttons in order to adjust its right value from 0 to 255. Then press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu. When the calibration is finished, it is necessary to use the **"A.rES."** function in order to write the calibration values to the memory (EPROM) and to make a reset in order to check the newly adjusted position of the gobo wheel. When the reset of the fixture is finished, the display will show the **"F.CAL."** message. Press **[Enter]** to repeat the calibration or **[Mode]** to return to the **"AdJ."** menu.

2. Calibration via the external controller

Connect the DMX controller, press **[Enter]** and the **[Up]** and **[Down]** buttons in order to display the following message: **"rGob,Grot"** - calibration parameters. Press **[Enter]**.

Now you can calibrate the rotating gobo wheel by your controller. The DMX calibration protocol is described in the table mentioned below.

DMX Calibration protocol:

DMX Channel	1	2	3	4	5	6
Function	R. GOBO WHEEL CALIBRATION 0-255 SMOOTH MIC. MOVEMENT	GOBO ROT. CALIBRATION 0-255 SMOOTH MIC. MOVEMENT	TILT STANDARD PROTOCOL	TILT FINE STANDARD PROTOCOL	P/T SPEED STANDARD PROTOCOL	LAMP ON/OFF RESET STANDARD PROTOCOL

DMX Channel	7	8	9	10
Function	ROTATING GOBOS STANDARD PROTOCOL	GOBO ROTATION STANDARD PROTOCOL	FOCUS STANDARD PROTOCOL	DIMMER STROBE STANDARD PROTOCOL

After having calibrated required functions press **[Enter]** to confirm (or **[Mode]** to cancel and return to the menu without reset by the **"A.rES."** function) and use the **"A.rES."** function in order to write the calibration value to the memory (EEPROM) and to make a reset in order to check the new adjusted positions of the rot.gobo wheel.

9.Error and information messages

HEAt

This message appears if you try to switch on the lamp within 5 minutes after having switched it off (the lamp is too hot). The message will appear on the display if the lamp doesn't ignite within 28 seconds. The IMAGE SPOT 250 AT will store this information and automatically ignite the lamp when the 5 minutes period has expired.
Caution: The message is disabled if the lamp light sensor (function "En.Sn.") is switched Off (only if the lamp was turned Off and On within 5 minutes,the message "HEAt" will appear).

LA.Er

The ignition of the lamp is seven times unsuccessful (the HEAt message appeared six times before), and the display shows **"LA.Er"**, meaning that the lamp could be damaged or even missed, the fixture is overheating (this can occur if the ambient temperature is 45° C or more) or there could be a failure on the ignitor or ballast.
Please place or replace the lamp, check the ambient temperature or contact your dealer if the situation was not caused by the lamp.
Caution: The message is disabled if the lamp light sensor (function "En.Sn.") is switched Off.

FAN

The message informs you that the fixture was overheating and switched off. This message will appear on the display if the fan speed operating "LOOF" was selected.

nbEr

This messsage informs you that the main PCB does not communicate correctly with the Control Panel.

rGEr

(rotating gobo-wheel error) This message will appear after the reset of the fixture if the magnetic-indexing circuit malfunctions (sensor failed or magnet missing) or the stepping-motor is defective (or its driver circuit on the PCB). The rotating gobo-wheel is not located in the default position after the reset.

IGEr

(rotating gobo indexing error) This message will appear after the reset of the fixture and if the magnetic-indexing circuit malfunctions (sensor failed or magnet missing) or the stepping-motor is defective (or its driver circuit on the PCB). The rotating gobo is not located in the default position after the reset.

FoEr

(focus error) This message will appear after the reset of the fixture and if the magnetic-indexing circuit malfunctions (sensor failed or magnet missing) or the stepping-motor is defective (or its driver circuit on the PCB). The focus is not located in the default position after the reset.

FtEr

The message informs you that the fixture was overheating (occured if the ambient temperature is 45° C or more) and that the relay switched off the lamp. This message will appear on the display until the temperature will be on a suitable level, then the display will show the "HEAt" message meaning the lamp is too hot.

SnEr

This message appears if the lamp lighting sensor is failed. Please, contact your dealer.
Caution: The message is disabled if the lamp light sensor (function "En.Sn.") is switched Off.

PoEr

This message will appear if the fixture was shortly disconnect from the main.

PAEr

(PAN-yoke movement error) This message will appear after the reset of the fixture if the yoke's magnetic-indexing circuits malfunction (sensors failed or magnet missing) or the stepping motor is defective. (Or its driving IC on the main PCB). The yoke is not located in the default position after the reset.

ti.Er

(TILT-head movement error) This message will appear after the reset of the fixture if the head's magnetic-indexing circuit malfunctions (sensor failed or magnet missing) or the stepping motor is defective. (Or its driving IC on the main PCB). The head is not located in the default position after the reset.

MAEr

(Master error)The message informs you that the fixture was addressed as a master and DMX signal is connected to its input.Disconnect the DMX controller from fixture's input and address the fixture as the master again.The message appears after switching the fixture Off and On.

FrEr

It will appear if the frequency of the mains is not standard 50 or 60Hz.

10.Technical specifications

Power supply

EU-model:	208/230/240V AC, 50/60Hz ~
Fuse:	T 3.15A @ 230V
US-model:	100/120/208/230/240V AC, 50/60Hz ~
Fuse:	T 6,3A @ 120V
Power consumption:	430 VA

Remote control:

2 batteries 1,5V, size AAA

Lamp

MSD 250/2 GY-9,5

Optical System

- High luminous-efficiency parabolic mirror and double condenser system
- All lenses are anti-reflection coated
-15° standard objective

Rotating gobos

- 5 gobo holders for 5 gobos
- Gobo indexing
- Rotating gobo-wheel cont. rotation
- Gobo dimensions:
    - Metal gobos:outside diameter=37.4mm,stainless steel,thickness=0.15mm
    - Multicolor dichroic gobo:outside diameter=37.4mm,thickness=1.1mm,high temperature borofloat or better glass
    - Glass gobo:outside diameter=37.3mm,max.thickness=4mm,high temperature borofloat or better glass

Strobe

- Strobe effect with variable speed (max. 10 flashes per second)

Dimmer

- Dimmer from 0 - 100 %

Focus

- Motorized focus from near to far

Motor

- 5 high-quality stepper-motors controlled by microprocessors

Electronics

- Digital serial input DMX-512
- 8 or 10 control channels (8 or 16 bit protocol):
- master/slave operating
- remote control

Pan/Tilt

Pan movement range 530°
Tilt movement range 280°
8/16 bit movement resolution
Automatic Pan / Tilt position correction
Maximum PAN-movement 530° in 2.7 s
Maximum TILT-movement 280° in 1.7 s

Rigging

Stands directly on the floor
Mounts horizontally or vertically with 2 clamps

2 truss orientation
Safety chain/cord attachment point

Temperatures

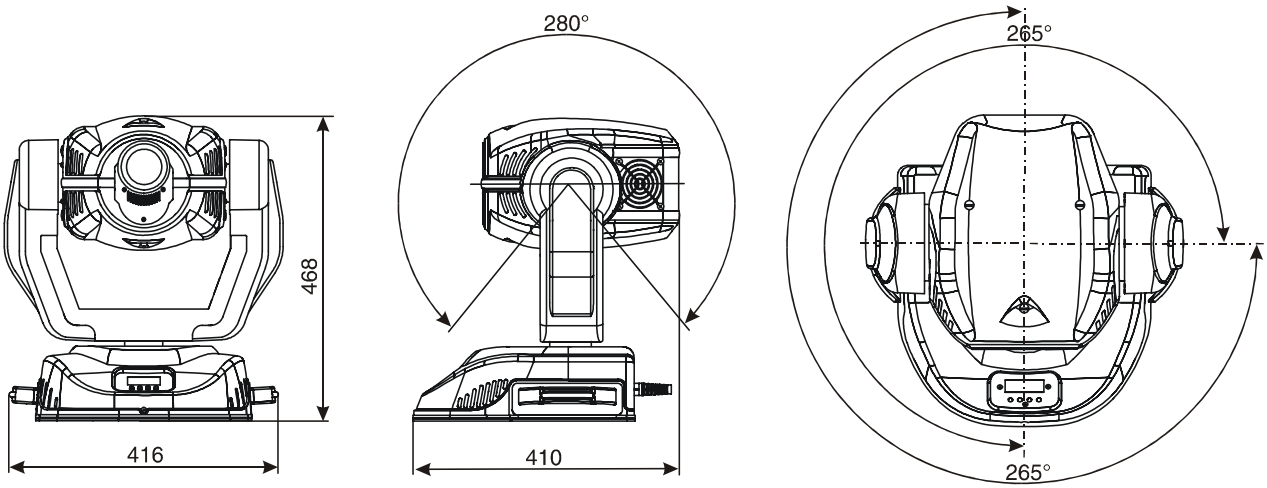
Maximum ambient temperature : 45° C
Maximum housing temperature : 80° C

Minimum distances:

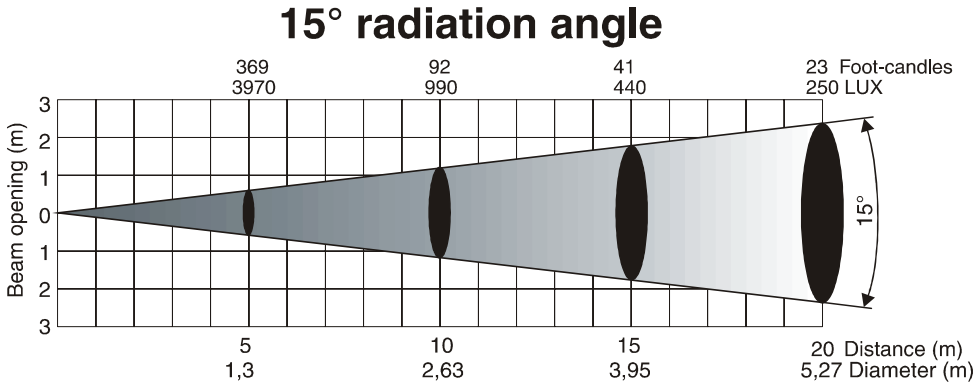
Min.distance from flammable surfaces: 0,5m
Min.distance to lighted object: 1,3m

Dimensions and weight

Weight (net):20 kg



Beam path



Optional accessories

Mounting plate.....99010500

11.Maintenance and cleaning

The operator has to make sure that safety-relating and machine-technical installations are inspected by an expert after every four years in the course of an acceptance test.

The operator has to make sure that safety-relating and machine-technical installations are inspected by a skilled person once a year.

The following points have to be considered during the inspection:

1) All screws used for installing the devices or parts of the device have to be tighly connected and must not be corroded.
2) There must not be any deformations on housings, fixations and installation spots (ceiling, suspension, trussing).
3) Mechanically moved parts like axles, eyes and others must not show any traces of wearing (e.g. material abrading or damages) and must not rotate with unbalances.
4) The electric power supply cables must not show any damages, material fatigue (e.g. porous cables) or sediments. Further instructions depending on the installation spot and usage have to be adhered by a skilled installer and any safety problems have to be removed.

DANGER TO LIFE !
Disconnect from the mains before starting maintenance operation!

It is absolutely essential that the fixture is kept clean and that dust, dirt and smoke-fluid residues must not build up on or within the fixture. Otherwise, the fixture‘s light-output will be significantly reduced. Regular cleaning will not only ensure the maximum light-output, but will also allow the fixture to function reliably throughout its life.

Please use a moist, lint-free cloth. Never use alcohol or solvents!

The front objective lens will require weekly cleaning as smoke-fluid tends to building up residues, reducing the light-output very quickly. The cooling-fans should be cleaned monthly.

The gobos may be cleaned with a soft brush. The interior of the fixture should be cleaned at least annually using a vacuum-cleaner or an air-jet.

The dichroic colour-filters, the gobo-wheel and the internal lenses should be cleaned monthly.
To ensure a proper function of the gobo-wheel and the zoom screwline, we recommend lubrication in six month intervals. The quantity of oil must not be excessive in order to avoid that oil runs out when the gobo-wheel rotates.

There are no serviceable parts inside the device except for the lamp and the fuse. Maintenance and service operations are only to be carried out by authorized dealers.

Please refer to the instructions under "Fitting/Exchanging the lamp".

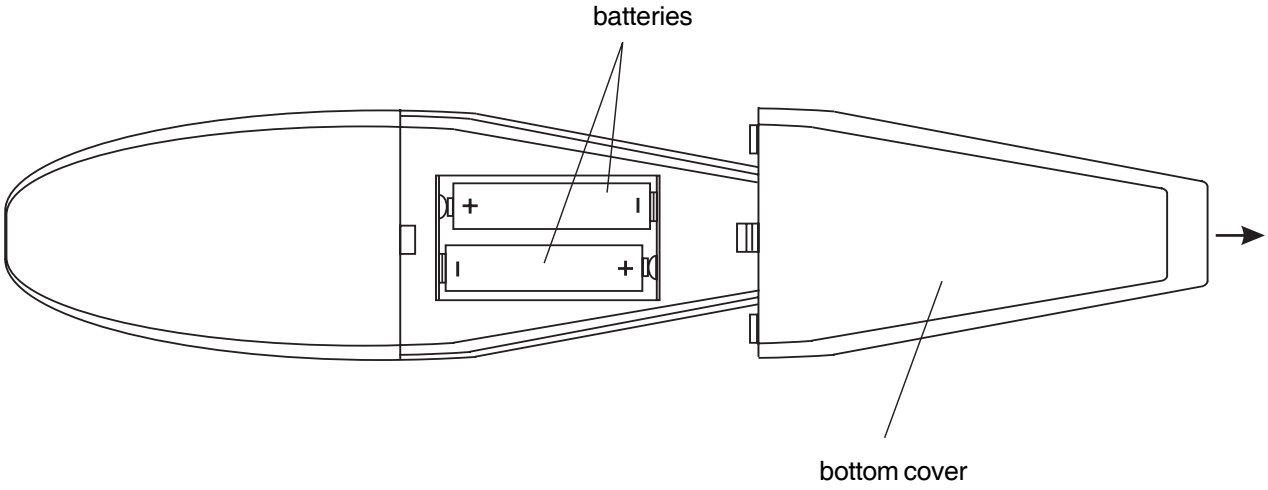
Replacing the fuse

If the lamp burns out, the fine-wire fuse of the device might fuse, too. Only replace the fuse by a fuse of same type and rating.

Before replacing the fuse, unplug mains lead.
Procedure:
Step 1: Unscrew the fuseholder on the rear panel of the base with a fitting screwdriver from the housing (anti-clockwise).
Step 2: Remove the old fuse from the fuseholder.
Step 3: Install the new fuse in the fuseholder.
Step 4: Replace the fuseholder in the housing and fix it.

Replacing the batteries in the remote control

Pull off the botton cover of the remote control and take the batteries out .Replace the exhausted batteries with a new ones-check the voltage and the polarity!Push the bottom cover in back.



Should you need any spare parts, please use genuine parts.
If the power supply cable of this device will be damaged (cable firmly connected with the device), it has to be replaced by authorized dealers only in order to avoid hazards.
If the power supply cable of this device will be damaged (replaceable cable), it has to be replaced by a special power supply cable available at your dealer.

Should you have further questions, please contact your dealer.